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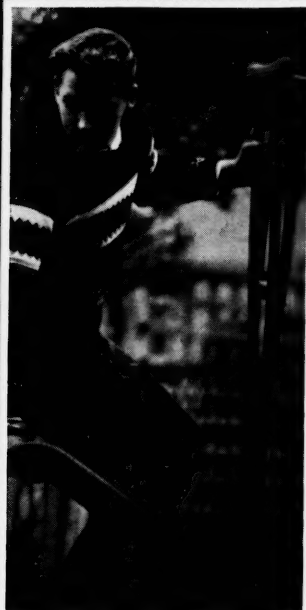
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THE WASHINGTON SCENE

A Summary Report Prepared by the Washington Office of the American Medical Association

THE AMERICAN MEDICAL ASSOCIATION cited more than fifty reasons why the vast majority of the nation's physicians believe the Administration's medical care program would be "bad medicine for the people of this country."

The A.M.A.'s objections to the proposal were spelled out in a detailed, 91-page printed statement presented to the House Ways and Means Committee by Doctor Leonard W. Larson, Bismarck, N.D., president of the A.M.A.

The committee held two weeks of hearings (July 24-Aug. 5) on the Administration proposal (H.R. 4222) which would provide limited hospitalization, nursing home care and outpatient diagnostic services for social security recipients. The program would be financed by an increase in payroll taxes on workers, employers and the self-employed.

Doctor Larson declared that the Administration program would force upon Americans a system of health care in which the quality of medical care would deteriorate, in which quality would become secondary to cost.

He said American medicine is the best in the world, medical education unsurpassed and the qualifications of U.S. physicians unmatched.

"Ours is a dynamic system of health care — and it works," he said. "The very fact that we now have 16½ million Americans sixty-five years of age and older proves that it works."

"Yet, this same system of medical care is now under attack. At a moment when American medicine is pre-eminent throughout the world, it is proposed that we adopt the very systems under which one European nation after another has lost its former leadership in medical science."

"The staggering costs of such plans, the administrative problems they create — let these considerations be secondary," he said. "The important thing is to see, at close range, the disruption of the doctor-patient relationship; the delays in admission to hospitals; the time wasted in the overcrowded offices of doctors; the regimentation of medical practice; the effect of the program on medical research; the availability of medical facilities and personnel — in other words, medicine in action on a government-run, assembly-line basis."

Doctor Larson said also:

1. Congress is being asked to plunge into a compulsory government-operated program of health care for certain of the country's elderly without knowing what even the first-year cost will be — whether \$1 billion or \$4 billion — and without any clear idea of the extent of the problem it seeks to solve.

2. The bill under consideration would give a single government official the power to "become the nation's czar of hospital care."

3. Contrary to statements of supporters of the measure that physicians' services are not included in the program, more than 50,000 doctors would be directly affected by regulations and controls exercised by government over operations and administration of hospitals.

4. Enactment of the program would "lower the quality of medical care available to the older people of the United States" because "it would introduce into our system of freely practiced medicine elements of compulsion, regulation and control" by government.

5. The Administration proposal is unnecessary in light of the true economic status of the aged and because of the spectacular rise of voluntary, private health insurance coupled with passage by Congress of the Kerr-Mills Medical Aid for the Aged Law last year and the existence of other public and private programs of aid to the needy.

6. Health care at the expense of the working people would be provided for millions who are financially able to pay for their own care.

7. The legislation "proposes that we distrust the brains and capacities of today's Americans" because "it suggests that the aged — as an entire group — are not capable of looking after their own affairs and providing for their own needs."

8. Increasing costs of the program could impose such a financial strain on social security that the entire system could be jeopardized.

9. The Administration's bill is just as objectionable as the five similar health care proposals rejected by Congress since 1942.

10. The bill would violate "American ideals of independence, self-sufficiency and personal responsibility" by establishing a system in which medical aid would be provided not on the basis of need but

concluded on page 500



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*Masters in Medicine . . .***JOHN W. KEEFE and PYLORIC STENOSIS**

SEEBERT J. GOLDOWSKY, M.D., *Editor-in-Chief*
RHODE ISLAND MEDICAL JOURNAL

FOR THE FIRST TIME in the *Masters in Medicine* series the spotlight is directed upon a great surgeon and physician of Rhode Island, Doctor John W. Keefe (1863-1935) of Providence. His local reputation was justly founded upon a robust surgical skill and upon courageous pioneering in many fields of modern surgery. Less well known locally, however, are his original contributions to the successful surgical management of congenital hypertrophic pyloric stenosis, the most important basis for his national reputation and historical stature. He appears in fact to have a legitimate claim to priority for the operation of pyloromyotomy.

Speaking before the American Association of Obstetricians and Gynecologists in September, 1912, he stated: "Gastroenterostomy, both the anterior and posterior methods, have been employed for the cure of pyloric stenosis. . . . Gastrojejunostomy upon a weak, starving infant as a subject is a decidedly serious operation. It does not directly remedy the stenosis. Bile and pancreatic juice may enter the stomach through the stoma and thus interfere with the digestive process." The following year before the same society, meeting in Providence, he made the following further observations: "Gastroenterostomy is attended with a high rate of mortality, about 50 per cent save in the hands of expert surgeons. Deaths have occurred from intestinal obstruction several weeks following the immediate effects of the operation. Jejunal ulcers may form at the side of the stoma giving rise to serious trouble."

His clinical description of the disorder was classical: "The food is expelled suddenly and with considerable force from 1 to 6 or 7 feet. This propulsive or projectile vomiting is characteristic of obstruction. . . . Changing the diet does not arrest, for any length of time, the loss in weight which soon becomes alarming. . . . The peristaltic wave is seen passing transversely from left to right and terminating in the right hypochondrium. Deep palpation . . . reveals a hard olive-shaped mass . . . in the majority of cases. . . . The x-rays may give us valuable aid by showing us that a solution of bismuth does not pass beyond the stomach. It is, therefore, desirable that we employ x-ray to assist us in determining the presence of obstruction of the pylorus."

Fredet in 1901 first described the operation of pyloromyotomy. After splitting the muscle longitudinally without opening the mucosa, he resutured the muscular layers longitudinally. Ramstedt in 1912 independently discovered the procedure of pyloromyotomy but allowed the unopened mucosa to balloon through the defect without attempting to close it. Keefe acknowledged the work of Fredet, referring inaccurately to Fridet and Guillemot (Fredet and Guillemot), whose report appeared in 1911, three years after Fredet's original contribution. He was, however, obviously completely unaware of the more important contribution of Ramstedt, appearing about the same time as his own presentation to the American Association of Obstetricians and Gynecologists. Although priority of publication cannot be claimed for him as regards either Fredet or Ramstedt, the unchallenged fact stands that Keefe performed his first successful operation in 1905 two years before the first published case of Fredet, and seven years before Ramstedt. He performed his second operation in 1911.

His procedure is closely related to that of Fredet. Through a small gastrotomy incision a sound was passed through the pylorus. "The sound was left in position and with a knife the peritoneum and circular muscular fibers forming the pyloric tumor were incised parallel with the long axis of the pylorus, *down to but not including the mucosa* (italics ours). The hypertrophied muscle was now separated from the mucosa laterally over half the circumference of the pylorus and a small portion of the muscle on either side removed, which allowed accurate transverse approximation of the wound." Larger sounds were passed if necessary and the gastrotomy was then closed.

Case Report

(Reprinted from the original)

B. J. T., a male infant was born May 31, 1905. He appeared to be a strong, perfectly well-developed child, weighing 8¼ pounds. By June 11 he weighed 8½ pounds but from that time he commenced to lose weight rapidly.

He vomited the mother's milk from the first, usually the milk from one breast more than the other, but the fact that one breast furnished more

milk than its fellow and in consequence of the infant receiving a larger feeding from the breast when the milk came freely, may account for this condition.

June 19, he was given modified milk and later barley water, koumiss, etc. June 21 Dr. John W. Mitchell, the attending physician, called Dr. Edward T. Walker in consultation and the next day the patient was also seen by Dr. Charles Putnam of Boston, who said that the patient was either suffering from improper food or a stenosis of the pylorus. A wet nurse was then employed but the vomiting continued.

The vomiting occurred shortly after the ingestion of food and was projectile in character, the food being shot out of the mouth. The vomitus consisted of milk and mucus, no bile found.

I was called to see the infant by Dr. Mitchell, June 24, 1905; he was then three and one-half weeks old and weighed 6 pounds and 12 ounces. He has vomited all of the various foods given him from birth. Sometimes he vomited immediately after taking food and at other times the food might remain in the stomach for one-half hour. He was fretful most of the time but after emptying the stomach he seemed relieved and would go to sleep. Upon waking he was greedy for food. Contrary to the rule, his bowels moved freely and lately the stools were greenish in color with very offensive odor. He was very much emaciated, his ribs being very prominent due to the lack of nutrition. There was visible peristalsis of the stomach; the peristaltic waves passed from the cardiac end of the stomach toward the pylorus. No tumor could be felt by palpation.

Operation: A median incision 2 inches long, beginning just below the ensiform cartilage, was made, which revealed a nonadherent, hard, pyloric tumor, about the consistency of gristle, measuring 3 cm. in length by 1 cm. in diameter. The stomach wall was hypertrophied and the intestine collapsed.

An incision was made 1 inch from the pyloric end of the stomach and through this opening a steel sound, No. 14 French scale, was passed into the pyloric opening. The peritoneum over the pyloric tumor was split and a longitudinal incision was then made, with a knife, through the muscle down to the mucosa. Other sounds were then passed through the stomach wound and the pylorus into the duodenum. The largest size used was No. 25, French scale. The ends of the wound of the pylorus were brought together with Pagenstecher thread and the peritoneum and muscles were so united that the line of suture was transverse, which increased the diameter of the pylorus. The opening in the stomach was closed with two rows of interrupted Lembert sutures and the abdominal wall closed in layers.

Saline enemas were given and rectal feeding

commenced shortly after operation. Within an hour he suffered severely from shock and was given minute doses of strychnia. He was given the wet nurse's milk with the aid of a medicine dropper.

June 29 the stitch in the skin was removed and on July 3 a small intramural abscess was opened, which healed in a short time.

July 15 he weighed 7 pounds and 5 ounces, although he continued to vomit considerably. He was again seen by Dr. Putnam with Dr. Mitchell and the former advised gastrojejunostomy unless he improved.

July 20 another wet nurse, a negress, nineteen years old, was employed. Her milk agreed perfectly with our patient and the vomiting ceased. Six days later the weight was 8 pounds and 3 ounces. Some weeks later in August, 1 pound a week was gained.

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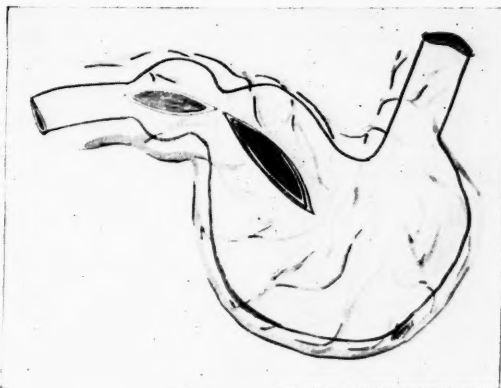


FIGURE I

"Showing opening into stomach through all three coats and pyloric opening down to mucosa." (Reproduced from the original report.)

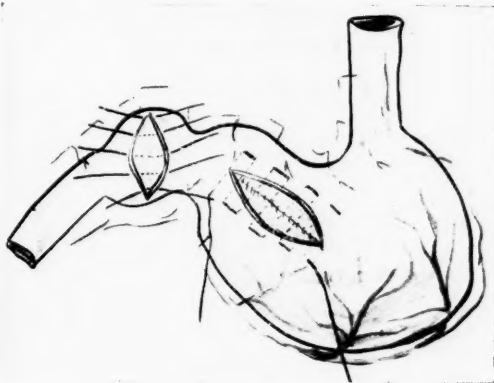


FIGURE II

"Removal of part of external and middle coats over pylorus allowing incision to be closed vertically, thus smoothing out longitudinal folds in mucosa." (Reproduced from the original report.)

Weight October 30 was 17 pounds and 5 ounces. Weight December 30 was 19 pounds and 14½ ounces. During the latter part of December two teeth appeared.

January 28, 1906, the weight was 19 pounds and 1 ounce. Two weeks ago it was thought advisable to wean the child as the wet nurse's babe was about eleven months old (one year old March 6, 1906) and the quantity of milk diminishing. Modified milk was given, consisting of cow's milk, sugar of milk and lime water. This was immediately rejected while the wet nurse's milk was retained even when from 3 to 9 ounces were taken at a feeding, showing that it was the quality of the food and not the narrowing of the pylorus that caused the vomiting and the diminution in weight. The fact that the infant is teething may have some bearing on the case.

September 12, 1912. The infant continued to do well and is now a strong and rugged boy over seven years of age.

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THE WASHINGTON SCENE

concluded from page 496

on the basis of age.

Doctor Larson described estimates of the cost of the Administration program as "confusing."

The A.M.A. president reminded committee members that H.E.W. Secretary Abraham Ribicoff had told them that "a closer study" had revealed it would be necessary to increase the taxable wage base from the present \$4,800 to \$5,200, rather than the \$5,000 fixed in the bill when it was introduced.

He also pointed out that H.E.W. originally had said nursing home services during the first year of operation of the Administration scheme would cost \$9 million.

But in May, Doctor Larson said, H.E.W. officials reported the figure as "unrealistically low" and lifted it to "somewhere between \$25 million and \$255 million."

"Obviously this estimate is something less than precise," Doctor Larson said.

The A.M.A. president said that supporters of the Administration proposal have built their case on five false premises: (1) that the sociological problems of older people can be solved through legislation; (2) that most, if not all, of the aged are in poor health; (3) that most, if not all, of the aged are verging on bankruptcy; (4) that the problem of the aged in financing their health costs will get worse before it gets better, and (5) that voluntary health insurance and prepayment plans, private effort and existing law will not do the job that needs doing.

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... *Executives' Digest*, Aug. 1961

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CONDITIONS OF THE CARDIOVASCULAR SYSTEM AMENABLE TO SURGERY*

FRANK GLENN, M.D.

The Author, Frank Glenn, M.D., of New York City, Lewis Atterbury Stimson Professor of Surgery (Chairman of the Department), Cornell University Medical College; Surgeon-in-Chief, The New York Hospital.

THE SURGICAL CORRECTION of conditions of the cardiovascular system is one of the most outstanding accomplishments of this era. The many developments in this area over the past thirty years are nothing less than spectacular. These include the Gibbon pump oxygenator, the use of homografts and prostheses to replace diseased blood vessels, the employment of hypothermia to prolong survival of tissues and organs deprived of their ordinary blood supply, controlled cardioplegia and resuscitations, ways and means to prevent and combat metabolic acidosis, the recognition of additional factors in blood clotting, and a vast array of new methods that provide for accuracy in diagnosis and evaluation. The surgical principles underlying these developments had been established long before the beginning of this period, and occasional operations had demonstrated the feasibility of direct surgical attack upon the heart and large vessels. However, near the end of World War II in 1945, a combination of circumstances seems to have set the stage for what has finally taken place. The hazards of intrathoracic procedures had been overcome, anesthesia was more often administered by doctors, and the chemotherapeutic agents and antibiotics effectual in the control of infection had been discovered. In addition increasing hospital facilities throughout the country and more surgical training programs provided more versatile young surgeons. Most important of all, a greater proportion of the profession was devoting its time to research on problems that were barriers in this frontier area.

*Presented at the 150th Annual Meeting of the Rhode Island Medical Society, at the Medical Library, Providence, Rhode Island, May 2, 1961.

From the Department of Surgery, the New York Hospital — Cornell Medical Center, New York City.

Numerous contributions made prior to 1945 have a direct relationship to modern cardiovascular surgery. To record them here would be to repeat much of the history of medicine. Outstanding and relatively recent examples were Landsteiner's recognition of blood groups and the cross-matching of blood,¹ and Carrel's animal demonstrations in blood vessel suture and transplantation of limbs.² And even these are dwarfed by the work of such ancients as Paré, Harvey, and Hunter.

A few surgeons still actively at work have made such significant contributions, that their names will probably go down in the history of surgical therapy for conditions of the cardiovascular system as have the names of the fathers of procedures directed to other systems and areas of the body. These include Sir Henry Souttar, Robert Gross, Alfred Blalock, Clarence Crafoord, John Gibbon, Michael DeBakey, and many others.

Sir Henry Souttar in 1925 reported his attempt to enlarge a stenosed mitral valve with his index finger inserted into the left auricle through the auricular appendage.³ The patient, a girl of 19, was improved and lived for several years. Employing Souttar's method, Bailey and Harken in 1948 inaugurated the surgical attack upon mitral stenosis in this country.

Robert Gross⁴ in 1939 was the first successfully to obliterate the patent ductus arteriosus by ligation. He went on to demonstrate that this could be done safely by division and suture. Thus he corrected a vascular anomaly and thereby prevented those complications commonly associated with it. In 1945 both Crafoord⁵ of Sweden and Gross⁶ independently described resection of a coarcted segment of the aorta and restoration of its continuity by suture anastomosis. These two accomplishments represent the application of principles demonstrated by Carrel in the suturing of blood vessels in animals. Further elaboration of these methods has led to the surgical treatment of aneurysms and obliterative disease of the aorta and its branches so brilliantly pursued by Michael DeBakey and his associates.

continued on next page

Alfred Blalock⁷ in 1944 relieved the cyanosis of a patient with the tetralogy of Fallot by anastomosing a systemic artery, the right subclavian to the right pulmonary artery. The improvement was immediate and dramatic, and many patients were operated upon thereafter. This short circuit operation stimulated wide interest in the surgical correction of other intracardiac malformations that had been extensively studied by Blalock's co-worker, Maude Taussig. The marked upsurge in research that followed this accomplishment paved the way to many of the intracardiac corrective operations currently employed.

John Gibbon⁸ of Philadelphia began to experiment on the use of an extracorporeal mechanism to oxygenate and propel blood through the systemic circulation in the early 1930's. In 1953, he closed an atrial septal defect under direct vision in a young girl—the first such procedure to be done using the pump oxygenator. This, I think, marked the greatest single advance on the road to present day cardiovascular surgery. Soon thereafter, with the circulation carried on by the extracorporeal mechanism, cardioplegia was employed to stop the heart at will, and procedures were developed so that it could readily be restarted, thus rendering the organ immobile during delicate surgery. Within the past eight years many innovations of the Gibbon machine have been introduced. The difficulties associated with the learning of completely new approaches made possible by the pump oxygenator have taxed the skills of the many surgeons who have embarked on this endeavor. The success attained has, however, stimulated not only the surgeons but other members of the profession as well to learn more about poorly understood lesions of the cardiovascular system previously given little attention because nothing could be done to remedy them.

The cardiovascular system is subject to congenital anomalies, lesions of disease, and injury; many of these may be corrected, improved, or cured by surgical therapy. This discussion will consider three groups (1) Acquired Heart Disease; (2) Conditions of the Aorta and its Branches; (3) Congenital Cardiac Anomalies.

Acquired Heart Disease

Pericardium. Pericarditis becomes a surgical problem when the mechanical interference with cardiac function that it causes is refractory to medical measures. Usually this interference results from accumulation of fluid within the pericardial sac or changes in the pericardium that prevent the heart from filling and emptying in a normal manner.

Chronic idiopathic pericarditis with effusion may cause tamponade sufficient critically to reduce car-

diac output. Aspiration affords only temporary relief. Partial pericardiectomy corrects the condition by draining the excessive fluids into the pleural space, where they are absorbed.

Constrictive pericarditis is believed to be due to long-standing infections such as tuberculosis. The pericardium becomes greatly thickened and undergoes various degrees of calcification. It may or may not be densely adherent to the myocardium, but in either event to all intent and purposes it forms a rigid envelope about the heart that prevents filling in diastole and hence reduces the cardiac output. The constricting pericardium may be removed with marked benefit and sometimes complete restoration of health if the condition has not prevailed too long and if it has not caused damage to the myocardium.

Valvular Disease

Mitral Valve. All four heart valves may be affected by infection or other disease, involvement of the mitral valve being by far the most frequent cause of disability. As a result of rheumatic fever it may be partially destroyed and thus rendered insufficient, or scarred and distorted so as to be stenotic. The diagnosis is readily made. If a patient with mitral valve disease experiences progressive symptoms and disability to the extent that ordinary activity is limited, operation should be embarked upon unless there are contraindications. In this phase of rheumatic heart disease, roentgenogram examination usually reveals marked enlargement of the left auricle, and to a lesser degree increase in size of the right ventricle, along with changes in the lung fields associated with congestion and pulmonary hypertension and sclerosis. Many patients with rheumatic heart disease are in auricular fibrillation, and a fair proportion have had systemic emboli that originated from a thrombus in the left auricle.

Angiocardiology and cardiac catheterization are sometimes needed to clarify the diagnosis and to demonstrate the presence or absence of certain changes within the heart that may have a bearing on the surgical approach. An associated bacterial endocarditis and advanced disease in other valves, in the myocardium, or in both constitute contraindications to immediate operation. A history of previous emboli, thrombi within the left auricle, calcium deposition in the mitral valve, and advanced age are recognized as contributing to the risk of the operation. In over 90 per cent of instances, enlargement of the mitral orifice from a critical area of less than 1.0 sq. cm. to 3 or 4 sq. cm. (4-6 sq. cm. is normal) can be accomplished by the indirect approach through the left auricular appendage. During the past 14 years several thousand patients throughout the United States have been treated surgically with a mortality rate of about 5

per cent and improvement in 75 per cent. In a group of approximately 600 patients at The New York Hospital-Cornell Medical Center,⁹ the results have been quite similar. Recurrences of mitral stenosis do occur, owing to resealing of the commissures or to progress of the disease involving the valve ring to cause further scarring and contracture. And while this has been reported in only 2-4 per cent of patients during the first 5 years after operation, it may increase with the passage of additional years.

There is a group of patients in whom the mitral valve cannot be dealt with satisfactorily by the indirect approach. If surgery is to be undertaken in such individuals it should be accomplished by the open heart approach method using the pump oxygenator. As proficiency is gained and the risk further reduced, this method will be more frequently employed. It provides a better opportunity for the surgeon concomitantly to open the stenosed valve, repair the incompetency, remove superficial calcium depositions, evacuate thrombi from the left auricle, and in rare instances replace the entire valve. The surgical treatment of mitral stenosis is firmly established and is constantly being improved.

Aortic Valve. The aortic valve may be involved by rheumatic fever, either alone or along with the mitral valve. It may be the site of changes due to atherosclerosis and bacterial infection. These pathologic processes result in stenosis or insufficiency, depending upon their extent and exact location. Either condition may cause great disability and may be fatal. Because the coronary arteries have their origin from within two of the three aortic cusps, impairment of myocardial circulation is frequently a part of the clinical picture. The circulation to the myocardium is most impaired during systole in aortic stenosis and during diastole in aortic insufficiency. The common manifestations of aortic stenosis are early fatigue, episodes of fainting and anginal pain often associated with arrhythmias, dyspnea on exertion, and congestive heart failure. There is usually cardiac enlargement, but not always, particularly, if the condition has developed recently. Post-valvular dilatation of the aorta and calcium deposition in the valve are readily demonstrated by X-ray examination. Refinements in methods of evaluation include cardiac catheterization and selective aortography. An aortic orifice of less than 0.5 sq. cm. in the adult is critical and is not long tolerated.

The approaches to correct aortic stenosis have been numerous and ingenious, and most have had some degree of success. A collapsible valvulotome introduced through the left ventricle has been abandoned because its use was associated with coronary occlusion due to fragmentation and dislocation of calcium containing atherosclerotic depositions near the coronary ostia. Furthermore in the blind break-

ing up of a stenosis, a valve leaflet may be torn, sometimes producing an insufficiency. The direct approach using hypothermia is currently being more widely used (Fig. 1 and 1-A). Without causing additional risk to the patient, this improved method affords time for the surgeon to accomplish what is frequently a tedious and exacting task. Using the pump oxygenator for total body perfusion supplemented by hypothermia and sometimes perfusion of the coronary arteries or induced cardioplegia, even the most markedly distorted valve with both stenosis and insufficiency can be greatly improved. Valve leaflet prostheses are being used with increasing success. Homografts of leaflets and even the aortic ring replacement are feasible.^{10,11} For gross aortic insufficiency, the Hufnagel valve placed distally in the aorta has provided temporary improvement.

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FIG. 1. AORTIC STENOSIS

Aortic stenosis due to fusion of cusps corrected by direct approach employing the extracorporeal mechanism and cardioplegia.

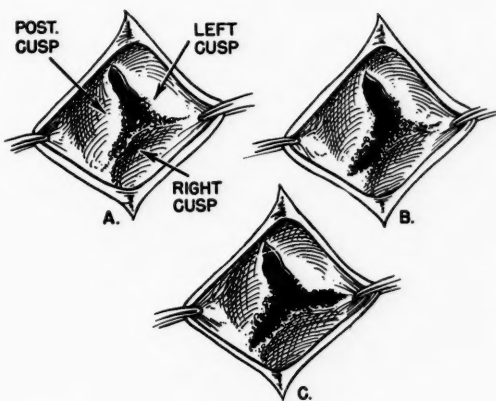


FIG. 1-A

Line drawing insert indicating approach to overcome aortic stenosis.

Surgical treatment of aortic stenosis is on the ascendancy. Our experience¹² parallels that of others, namely, that patients with disabling manifestations of short duration and under 60 years of age are as a group dramatically improved, with a mortality rate of under 10 per cent. Long-term follow-up studies not yet available are needed to determine its value in prolongation of life.

Tricuspid Valve. Acquired deformity of the tricuspid valve is not frequent. When it occurs it is usually due to rheumatic infection and is accompanied by mitral valve disease which far overshadows it. Tricuspid insufficiency is commonly associated with right ventricular enlargement, secondary to mitral stenosis. When correction of the mitral stenosis is followed by decrease in the size of the right ventricle, the tricuspid insufficiency is often markedly reduced or completely corrected. Tricuspid stenosis may occur in multivalvular rheumatic involvement. The surgical approaches are indirect, through the right atrial appendage, and direct, through the wall of the right auricle. The structure of the stenosed tricuspid valve is comparatively fragile, and correction of a stenosis may result in valvular insufficiency which, if not marked, is of little consequence.

Pulmonic Valve. Acquired disease of the pulmonic valve is rare and is estimated as accounting for less than one-half per cent of valvular deformities. Isolated pulmonic valve involvement due to rheumatic fever has not been encountered by our group.

Tumors of the Heart

Although generally considered to be uncommon, being seen in about one in every 2-3000 autopsies, primary neoplasms of the heart are now beginning to be reported more frequently. At The New York Hospital-Cornell Medical Center we have observed several such tumors. These neoplasms may be either benign or malignant. The benign include myxoma, lipoma, fibroma, and rhabdomyoma. The malignant tumors are carcinomas and sarcomas. The clinical manifestations of cardiac tumors depend on whether the neoplasm is located within a cardiac chamber, the myocardium, or the pericardial cavity. Advances in roentgenographic methods of visualizing the chambers of the heart and large vessels by selective angiocardiology have rendered location of these tumors increasingly satisfactory. Benign tumors have been successfully removed from all chambers of the heart, using the direct open heart approach. Thus far surgery has provided only temporary palliation for malignant tumors by partial removal. Metastatic tumors of the heart are being currently studied with increasing interest. Hanfling¹³ reviewed 127 cases from among 694 deaths from cancer found at post

mortem at The New York Hospital-Cornell Medical Center over the seven-year-period 1947-1953. Clinical manifestations include heart block and pericardial effusions. X-ray therapy has been beneficial in some instances. Single metastatic tumors should be attacked surgically.

Myocardial Ischemia

Myocardial ischemia due to occlusive disease of the coronary arteries is one of the most frequent causes of death in our population. As the proportion of our people over 65 increases, so does the relative incidence of this condition. Because individuals of 90 and over are encountered with minimal changes in their vascular system in general and specifically in their coronaries, the obvious question arises: Why the difference? Several factors may play a role in the aging process, and some of these become manifest even among those who are chronologically young. These include the genetics of inherited physiological traits, environment, diet, occupation, episodes of infection and disease, the use of drugs and noxious substances such as tobacco and alcohol, and finally mental stress.

Prevention and control of coronary artery disease are, to say the least, unsatisfactory. The success or failure of medical management and treatment appear to depend more upon the pathological changes present than upon the measures and medications employed. The same holds true thus far for surgical attempts to correct a diminishing myocardial circulation. Surgical therapy is comparatively new in this field, and it is hoped that further developments will render it more effective.

To this end, surgeons have initiated many experiments in the laboratories and have extended them to the operating room in an attempt to increase blood flow to the myocardium.

The following general approaches have been given a clinical trial and have been reported:

1. Partial obstruction of the venous outflow of the myocardial circulation and reversal of the venous circulation with arterial blood as proposed by Beck.¹⁴
2. Production of an adhesive pericarditis by direct injury of the myocardial surface or by introduction of foreign material such as asbestos or talc into the pericardial space.¹⁵
3. The surgical approximation to the myocardium of organs with a luxuriant blood supply, such as the lung and segments of the intestinal tract.¹⁶
4. Transplantation of a systemic vessel into the myocardium to provide a new source of blood as described by Vineberg using the internal mammary artery.¹⁷
5. Endarterectomy to remove material obstructing the lumen of the coronary arteries.¹⁸

6. Creation of a fistula between the pulmonary artery and the left auricular appendage.¹⁹

Thus far no procedure has been sufficiently satisfactory to become established as an acceptable therapeutic measure.²⁰ The need for such a measure is so great that enthusiasm based on hope and the survival of patients upon whom operations have been performed has led to far too great an acceptance without sufficient scientific basis.

Cardiac Resuscitation. As interest and knowledge in the surgical treatment of cardiovascular disease have increased, cardiac resuscitation has become more successful. Ten years ago attempts were for the most part limited to patients sustaining cardiac arrest in an operating room. Thereafter it was attempted elsewhere, both within and without hospitals, by the surgical or open approach, and it was sufficiently successful to justify it as a reasonable procedure. More recently Kouwenhoven, Jude, and Knickerbocker²¹ of Baltimore have described closed chest cardiac resuscitation which extends the opportunities for this endeavor.

The surgical or direct approach requires opening the chest and massaging the heart in order to propel blood through the vascular system while at the same time providing ventilation of the lungs. If ventricular fibrillation occurs, electrical shock is required to restore effectual contraction and normal sinus rhythm. While effectual, this method is not only cumbersome but is limited in its application because of its complexity.

The closed method developed at the Johns Hopkins University School of Medicine has the great advantage that it can be initiated for a greater number of persons under a wider variety of circumstances. With the patient on a rigid support, intermittent pressure at a rate of 60 times per minute is applied to the lower end of the sternum by the heel of one hand with the other hand on top of it. This will produce a good peripheral pulse and a systolic blood pressure ranging from 80 to 120 mm. Hg. This method also provides some ventilation of the lungs in the event that a second person is not available for mouth-to-mouth respiration.

The advantages of closed-chest cardiac massage are that a thoracotomy is avoided, and that it can be performed by relatively inexperienced personnel in almost any location and with no equipment. However, it should be noted that preparations should be made to diagnose ventricular fibrillation by electrocardiograph and to defibrillate electrically through the intact chest. A defibrillator capable of producing 400 volts or more is required for closed-chest defibrillation. This equipment is not available in all institutions.

Conditions of the Aorta and Its Branches

The aorta and its branches are subject to both

congenital and acquired lesions. Examples of the former include coronary arteriovenous fistula, common truncus arteriosus, patent ductus arteriosus, and coarctation. Occlusive disease and aneurysms are the most common examples of the latter.

Gross anomalies of the aorta are clear-cut surgical problems, whereas congenital structural deficiencies such as are seen in Marfan's syndrome may exist undiagnosed until medial necrosis results in an aneurysm (Fig. 2).

There are two principal components of acquired lesions of the aorta. The first is an occlusive process that reduces the lumen, and the second is degeneration of the supportive structure of the wall predisposing to aneurysm formation, with elongation and kinking of the segments. Aneurysmal segments of the aorta become dilated not only in transverse diameter, but also longitudinally, thus resulting in kinking in relation to the normal or less involved adjacent portion.

Patients with detectable aneurysms of the aorta and its large branches are reported to have a life expectancy of less than two years. Three excellent studies dealing with life expectancy of patients have been reported by Estes,²² Wright et al.,²³ and Gliedman et al.²⁴ It has been reported that when patients with aneurysms are not treated surgically, 70 per cent of them will die in three years, as compared to 12 per cent of the comparable age groups in the general population. Furthermore it was found at autopsy that of all patients with aneurysm, 96 per cent died from disease related to the aneurysm or its underlying cause. Those that are accessible may be resected or bypassed with homografts or prostheses. DeBakey²⁵ was the first to demonstrate in a series of several hundred patients that surgery could be accomplished with a low operative mortality rate (less than 5 per cent), relief of symptoms, and great increase in life

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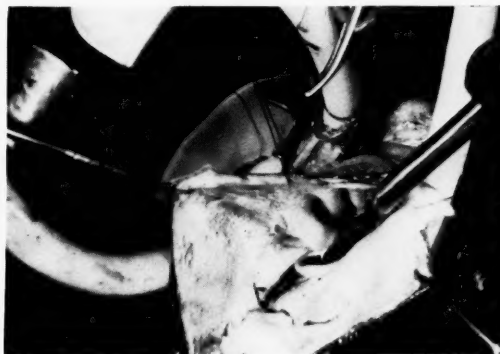


FIG. 2. MARFAN'S DISEASE

Large transverse rent of intima in greatly enlarged segment of ascending aorta of patient with Marfan's disease.

expectancy. With the aid of the extracorporeal mechanism to take over the heart's work, the less accessible aneurysms in the proximal portion of the aorta are being successfully treated more frequently. Following DeBakey's example, we and others throughout this country have been well pleased with the safety and satisfaction with which these major surgical measures can be accomplished in the older age group. The results of surgical treatment of reported aneurysms have been summarized by my associate, S. W. Moore. He collected reports on 542 non-ruptured abdominal aortic aneurysms. There were 58 postoperative deaths, a mortality of 10.7 per cent. In 74 which had ruptured, there were 36 deaths, a mortality of 49 per cent. At The New York Hospital-Cornell Medical Center,²⁰ over 75 patients with nonruptured aortic aneurysms have been treated surgically by resection or bypass, with four deaths or a mortality of 5 per cent. The average age of the group was slightly under 70 years. There were seven cases of resected ruptured aneurysms, followed by four deaths, or a mortality of 57 per cent.



FIG. 3. OCCLUSIVE ARTERIAL DISEASE

Cast of atheromatous material being removed from right common carotid artery. The circulation is maintained by bypass from proximal common carotid to distal internal carotid.

Occlusive Disease of the Arterial System

Occlusive disease of the arterial system which so frequently accompanies the aging process is being more adequately dealt with each year. Beginning with the segmental involvement of the distal aorta near its bifurcation into the iliacs, resection and later bypass procedures with plastic tube prostheses have been done with encouraging results. The same basic process, so very frequent in the femorals and popliteal vessels, has been alleviated by applying the same principles where the vessels distal to these are sufficiently patent to carry a blood flow that will sustain the parts they supply. Actually the more diffuse the involvement and the smaller the normal lumen, the less likely are such procedures to compensate for the increasing ischemia.

Localized depositions of atheromatous material within the walls of the arterial system are by no means rare in the older age group both at the site where branches are given off and just distal to it. Within the past five years this type of lesion has been demonstrated to be the cause of considerable disability not only of the lower extremities but also of the brain, kidneys, and other organs. Some can be relieved by endarterectomy and removal of these cast-like obstructions. For example, cerebral

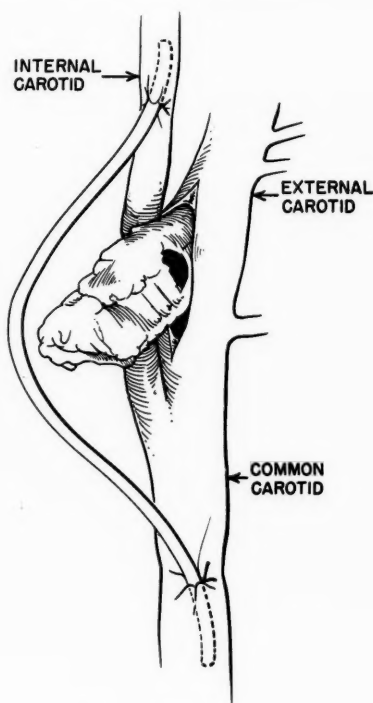


FIG. 3-A

Line drawing insert demonstrating relation of vessels.

ischemia with its many manifestations may be overcome by locating and removing such accumulations in the carotids distal or proximal to their origin (Fig. 3 and 3-A). Comparable lesions in the renal arteries give rise to hypertension. If the occlusion cannot readily be removed, it may be bypassed—the objective is to provide an increase in the diminished blood supply; this determines the degree of improvement. Coronary artery disease, as discussed above, is a part of this same problem, and like disease of the carotid and renal arteries may be attacked if the obstructive lesion is limited to a segment and the part distal is patent. The smaller the normal lumen of vessel that the surgeon has to work with, the greater are the difficulties in fashioning an anastomosis that will not be the site of thrombus formation in the early post-operative period. The fact must also be kept in mind that atheromatous disease of the arterial system is progressive; hence until it can be controlled surgical procedures are palliative even when the immediate results are dramatic. We must therefore anticipate both early and late failures due mostly to the characteristically generalized and progressive nature of arteriosclerosis, the most common cause of chronic occlusive vascular disease. That there are failures, however, should not cause under-evaluation of surgical intervention in chronic occlusive vascular disease, because, until ways are found to prevent arteriosclerosis, no other method of treatment offers such great benefits.

Acquired Conditions Due to Trauma

Since the beginning of surgery, traumatic acquired conditions of the cardiovascular system have been treated with some success. Present day approaches and greater availability of facilities make possible a better salvage of the acute injuries. Repair of the aorta and other large vessels with survival are becoming more commonplace, particularly in cases of rupture defects from impact as well as penetrating wounds. Lesions that become evident later, such as arterio-venous fistulae following accidents and sometimes surgical operations, are readily studied by angiocardiography and blood flow determinations. Advanced changes including cardiac enlargement with failure and ascites can be reversed, and completely disabled individuals returned to normal activity by closure of such arterio-venous fistulae. Bacterial endocarditis, one of the complications of such lesions, which formerly added to the hazard of the surgery required, is well controlled by preoperative antibiotic therapy. Aneurysms of the heart due to trauma and also those resulting from myocardial infarction can be excised with reasonable safety. Aneurysmal defects in the cardiac valves with dissecting extensions leading to fistula formation, formerly only seen at autopsy,

are successfully treated surgically. The same is applicable to traumatic aneurysms of the vascular system.

Congenital Cardiac Anomalies

When Alfred Blalock performed his operation to relieve cyanosis of the tetralogy of Fallot, the laborious contributions of Maude Abbott on congenital lesions of the heart began to bear therapeutic fruit. Pediatricians and internists became much more interested in their diagnosis. Techniques in the study of physiologic abnormalities of these conditions and their radiographic manifestations became a stimulating field of investigation. Here began the clinical application of a series of corrective procedures directed at intracardiac congenital malformations. First these were indirect and palliative, such as Blalock's procedure and Brock's blind attempts to overcome pulmonic valvular stenosis by a valvulotomy inserted through the right ventricle. Within a few years Kirklin²⁷ and others successfully corrected the defects included in the tetralogy of Fallot, with the heart open and in standstill. At present the results of surgery for this condition fall short of what is desired. But much progress has been made in a complicated anomaly, and the trend insures further progress in the future. Parallel to this have been the great strides in partial to complete correction of a large number of intracardiac malformations, which while less complicated, are often not very long compatible with life or ordinary activity.

In their embryological development, the valves of the heart are subject to malformations that result in variable deficiencies including partial absence, distortion and fusion of their leaflets, and stenosis of their orifices. The increased work-load placed upon the heart chamber proximal to an outlet obstructed or narrowed by stenosed valves results in hypertrophy that sometimes reaches such proportions that the outflow channel adjacent to the valve becomes reduced. Involved in order of frequency encountered, are the pulmonic, aortic, and mitral valves. Pure valvular involvement of the pulmonic, for example, is relatively simple to correct. Under direct vision and with the circulation maintained by the pump oxygenator, the risk is low, the mortality rate 0.3 per cent, and the results excellent. When there are associated conditions such as atretic vessels distally, as is seen in pulmonic and aortic stenosis, or when the valve ring is smaller than normal, more elaborate corrective procedures increase the risk and provide less satisfactory relief of symptoms. A congenitally stenosed valve orifice may become distorted, and when it is enlarged surgically may be rendered incompetent. This is of little importance in the pulmonic, but is tragic in the aortic or mitral. Perhaps in the future trans-

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plantation of the entire valve ring (homograft) will offer a better solution. What may take place following additional growth is, of course, unpredictable. Valvular malformations occurring together with septal defects and anomalous venous drainage constitute complex and challenging problems.

The embryological development of the heart is a highly co-ordinated sequential series of complicated responses to concomitantly occurring acceleration and retardation of growth in different groups of cells. Departures from the common pattern of cell growth and the rate at which it takes place result in congenital anomalies and malformations. Both atrial and ventricular septal defects are examples and they range from the minimal incompleteness of development in an insignificant defect such as foramen ovale to complete failure of growth with the absence of the entire septum between right and left atrium. Numerous factors probably play a role during embryological development. One of these, viral infection, has been well documented by Michaels and Mellin,²⁸ and Stuckey.²⁹

A foramen ovale that remains patent is a defect in the technical sense. However, the common defect, the ostium secundum, results from the failure of the atrial septum to develop fully; it may vary greatly in size. Where the defect is located at the base of the auricular septum, it represents a persistent ostium primum. When both components fail to develop, there is to all intent and purposes no septum, and the two auricles remain as one common chamber. According to the size of the defect, the shunting of the blood may be little or great. Atrial defects should be corrected in early life. Using the open atrial approach this can be done with little risk. Our mortality rate for over 50 patients with secundum defects is 3.8 per cent. Kirklin, Lillihei, Swan and others have reported much larger series with a mortality ranging from 0 to 5 per cent.

The large defects with a common atrium may be closed with plastic prosthesis such as Ivalon constructing an atrial septum. While this may be accomplished without difficulty, the late results are yet to be determined and may depend upon the reaction to the prosthesis as a foreign body. Restoration of physiological hemodynamics provides for an excellent prognosis unless other changes such as pulmonary hypertension and congestive heart failure have progressed to an irreversible stage. Associated anomalies that may complicate the atrial defects include abnormal venous drainage and valvular deformities.

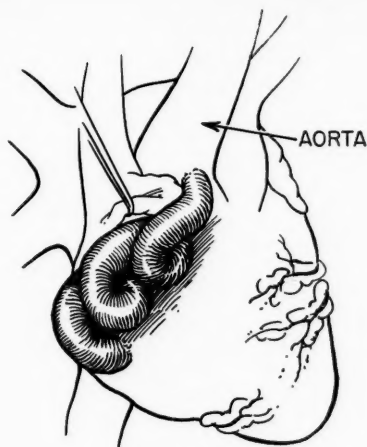
Interventricular Septal Defects

These may exist alone or in combination with other cardiovascular anomalies. They may be small, large, single or multiple, and of course, the septum

may fail to develop at all. The greater the total area of defect between the ventricles, the greater is the shunt and the more nearly does the pressure of the right ventricle approach that of the left. Pulmonary hypertension and cardiac failure result. Small defects may escape notice and cause little disability, and until their surgical correction can be done with little risk they should perhaps be left unmolested. When larger defects and multiple ones remain uncorrected, the prognosis justifies the risk of morbidity of complications and the mortality rate. Precise criteria for surgical intervention have yet to be clearly delineated. Certain steps of the procedure are relevant to selection of patients for operation: first, the necessity for a large cardiomyotomy incision for complete examination of the septum; second, closure of defects requires the placing of sutures that may include or encroach or distort the conduction bundle with resulting temporary or long-lasting heart block; third, large defects have a higher incidence of partial or complete recurrence with suture alone than do multiple small ones. Patches of synthetic prostheses add to the hazard of a foreign body within the heart.

The actual status of the surgical correction of interventricular septal defects remains to be determined. The operative mortality and immediate postoperative morbidity of complications remains high, as recorded in reports from various clinics. Our experience has led us to follow Kirklin's policy, which provides for operating upon patients who meet rather rigid criteria. We have improved our morbidity and mortality figures by being more cautious in selecting patients. Only long-term follow-up evaluation of this group of patients will settle the question. In the meantime, it seems reasonable to follow a conservative course, recommending operation for patients without great increase in right ventricular pressures.

In addition to those discussed, there are several other cardiovascular anomalies that are being attacked surgically. As interest increases in these and as they are correctly diagnosed with more regularity, it is anticipated that many more will be dealt with successfully. At present these include anomalous pulmonary venous drainage, transposition of the great vessels, atresias and stenosis of the proximal portion of aortic and pulmonary arteries, lesions of diminished integrity of the aorta, cor triatriatum, and coronary arterio-venous fistulae (Fig. 4 and 4A). Activity in the study of the various aspects of cardiovascular disease is indeed comprehensive. Knowledge of the pathology and physiology marked the beginning that led to an understanding of the clinical manifestations. New and improved methods of recognition have come in turn. The sometimes crude and cumbersome procedures that evolve in attempting to correct them,



FIGURES 4 and 4-A

Coronary arterio-venous (right atrium) fistula

Retrograde aortogram with line drawing demonstrating enlarged right coronary artery entering right atrium, corrected surgically by multiple ligation with complete obliteration.

although sometimes ineffectual, serve to stimulate investigation. As has so often been true in medical science, prevention seems more desirable than correction or cure. At the present such an approach to the congenital anomalies and malformations of the cardiovascular system seems far-fetched. In one way or another, genetics may provide an avenue towards such an objective. A relationship between viral infections and patent ductus arteriosus seems well confirmed.

Discussion

The numerous conditions of the cardiovascular system amenable to surgical therapy may conveniently be divided into two main groups, congenital

and acquired. Many of those in the first group are not compatible with life beyond a few days or months; others permit a normal life expectancy. While the majority are well tolerated during the early years, as secondary lesions are developed as a direct result of the malformation, disability increases and life is shortened. As a general rule, in acquired disease both the primary lesion or lesions and those secondary to them are progressive from onset. The rate of progression may vary greatly, from that seen in untreated subacute bacterial endocarditis which is rapidly fatal, to the arteriosclerosis that leads to coronary occlusion after the seventh or eighth decade. Nonsurgical therapy for most congenital lesions consisted mainly in restricting the patient's activities within the capacity of his cardiovascular system, in an effort to postpone failure or the development of irreversible conditions incompatible with life. In acquired lesions this approach has been effectively supplemented by drugs and diet in many instances. Symptoms were relieved and life prolonged by digitalis. Antileptic drugs have reduced the incidence and severity of vascular syphilis. Control of weight by diet and regulation of activity—and more recently antihypertensive drugs—have played a role in the control of hypertensive cardiovascular disease. Spectacular, indeed, has been the control and cure of bacterial endocarditis with the antibiotics. Diuretics have been an important addition in the medical therapy of a number of cardiovascular lesions ranging from constrictive pericarditis to myocardial failure.

Seldom does the internist completely overcome or remove the primary lesion in the treatment of cardiovascular disease. The surgeon can directly attack the basic lesion in many of the congenital conditions and occasionally in those of the acquired type. In the latter, a life-threatening lesion such as an aneurysm of the aorta may be removed or bypassed with a good likelihood that death will be considerably delayed before another aneurysm develops.

Thus it is not a question of selecting or advocating medical or surgical treatment of many of the lesions of the cardiovascular system. Rather it is a matter of one supplementing the other.

More progress in surgery pertaining to conditions of the cardiovascular system has been made over the past three decades than in the entire previous period of the recorded history of man. The events that are pertinent to this development have been briefly reviewed under the three categories: acquired heart disease, conditions of the aorta and its branches, and congenital cardiac anomalies. The current status of the surgical therapy being accorded these conditions with particular reference to the hazards and beneficial results is summarized.

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THE EARLY DIAGNOSIS OF CEREBRAL PALSY*

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A RENEWED and intensified interest in the early infantile manifestations of cerebral palsy has been one of the consequences of the study of pre-natal and perinatal factors in the production of congenital anomalies and brain injuries organized by the National Institute of Neurological Diseases and Blindness in 1958. This involves an unbiased prospective study of 50,000 pregnancies over a five-year period by fourteen collaborating hospitals, with serial follow-up examinations of the resulting babies up to school age. Attention was directed at neonatal neurological signs, both as evidence of brain damage and as possible indications of conditions capable of themselves producing brain injury in the early days of life. Further thought was logically devoted to the neurological examination of infants in the first year or so of life, to detect abnormality at the earliest possible age in case the baby was lost from subsequent follow-up, and to distinguish early abnormality from possible effects of later insults to the central nervous system.

Conventional methods of neurological examination of adults can to a considerable extent be adapted for infants by special methods, but the early diagnosis of cerebral palsies depends relatively little on traditional localizing neurological signs. The major early clues involve abnormalities of muscle tone, and of the postural automatisms and attitudes in suspension in space, which are peculiar to infancy. These responses, and their interpretation, have been more fully discussed else-

where,^{1,2} and motion pictures are available.† This report is to consider their evolution in the presence of a deficit of motor function symptomatic of a chronic brain lesion, that is to say, of a "cerebral palsy."

Cerebral palsy is most accurately thought of as a symptom or a manifestation, one of a tetrad of areas of possible cerebral dysfunction from a chronic lesion of whatever cause (the others being mental retardation or irregularity, epilepsy, and cerebral sensory defects). Another requirement of the definition is that the lesion be acquired before or at birth, or at least during childhood, so that it involves an evolution of its manifestations and a distortion of the normal pattern of growth and development, not a subtraction from a fully developed and functioning central nervous system. This situation results in the physical features of a "cerebral palsy" being quite different in the early months of life than the ultimate form in later childhood or adulthood.

In the newborn period, the cardinal signs of brain abnormality include over-all depression of central nervous system activity, absence or asymmetry of the principal automatisms such as the Moro reflex, gross alterations of tone or of spontaneous movements, abnormal movements such as convulsions or myoclonus, cranial nerve paralyses, and signs of increased intracranial pressure or meningeal irritation.² Some of these signs are indications for immediate diagnostic or therapeutic measures, but their prognostic implications are for the most part obscure. They may evolve into a cerebral palsy or into developmental retardation, or both, but in other initially very similar cases the abnormal signs will disappear, to be followed by entire normality. Thus, in the neonatal period, one cannot in many cases distinguish the "brain-insulted child" from the brain-injured child.

Conversely, congenital cerebral defects are often "silent" in the early weeks of life, although such infants are frequently more stereotyped in their behavior than normal infants, and lack the conspicuous variability from one time to another which is so characteristic of the normal newborn. As an extreme example, even hydranencephalics often appear quite normal initially, unless one happens to transilluminate the head.

*Presented in part at a meeting of the United Cerebral Palsy Association, at Providence, Rhode Island, May 28, 1961.

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Earliest Clues

The earliest clues to the existence of a congenitally abnormal brain usually appear at six to eight weeks of age, when responsive smiling to the mother is probably the first sign of the emergence of cortical function. Delayed interest in and response to persons and objects is often mistaken for blindness, but more frequently turns out to be a reflection of mental deficiency instead. Unless marked increase or decrease of tone persists from the first days of life, usually as the consequence of a perinatal injury to the brain, one becomes aware of strictly motor deficits only at two or three months. This is even true of the infant with future spastic hemiparesis, as pointed out by Byers³ some years ago, but not always recognized.

The usual sequence of events is that the grandmother of an infant of three or four months notices that one arm is moved more frequently than the other, and that a month or so later, one hand is used for reaching and grasping to the exclusion of the other, which is kept fisted most of the time. By the time the baby is six or seven months old, the grandmother has convinced the mother, and by nine months or so, the mother convinces the doctor, who all too often has been attributing the situation to early right- or left-handedness. Strong hand preference before eighteen months should always arouse suspicion of some abnormality affecting the opposite limb. A relative paucity of spontaneous movement of one arm and one leg requires prolonged or repeated observation to permit the examiner to be sure of it. More constant fisting of one hand, and a tendency for one leg to lie in external rotation at the hip when supine, may enhance one's suspicions. In the first six months, confirmation is most easily obtained from asymmetry of the early infantile postural automatisms. By this is meant not the Moro reflex, which is probably subcortical in level and has in any event largely disappeared by the age with which we are now concerned, but rather such responses as placing and "parachuting." If an infant is suspended vertically with the examiner's hands under the axillae, and then brought up so that the dorsa of its feet are drawn against the underside of a table edge, first one foot and then the other (more rarely, both at once) is elevated and placed firmly on the table top (Figure 1). The response depends more on proprioceptive stimuli resulting from traction on the ankle joint than on cutaneous contact, and is present from birth, persisting until more or less suppressed by voluntary control. In infants with hemiparesis due to congenital porencephaly, placing is probably initially symmetric, but by approximately two months of age, the affected leg is placed poorly or not at all. Further information can often be obtained when

the infant has completed the placing sequence and is "standing" on the table with the trunk supported by the examiner's hands. On suddenly lifting the baby vertically into the air, one should see both legs automatically flex at the hips and knees for a second or two, and then dangle again. This response is somewhat variable, but usually asymmetric in the presence of hemiparesis.

To test the parachute response, which should be present from the age of eight or nine months but rarely earlier, one suspends the infant horizontally in the air with his hands about its trunk, and suddenly plunges it toward a table top, or toward the floor. Normally, both arms are quickly extended out, as if to break the fall (Figure 2).

As the child grows older, muscular hypertonus appears, with a "stretch reflex" (increase of resistance on passive mobilization followed by a sudden jackknife type of give-way) which is usually evident earliest when the examiner attempts to supinate the forearm with the elbow extended. The asymmetry is subtle in early stages, and repeated testing and careful comparison with the opposite side is needed. Still later, hyperreflexia, ankle clonus, and obvious spasticity appear.

Because of lack of a normal side for comparison, the early diagnosis of what will be cerebral spastic tetraparesis (or tetraplegia, quadriplegia, or diplegia, more or less equivalent terms) is often more difficult than that of hemiparesis. The evolution of the picture also varies more from case to case, although there is a fairly usual sequence.⁴ The patient is at first hypotonic in all areas, and is likely to be

continued on next page



FIGURE 1

Placing response. Dorsum of left foot has just been brought up under table edge, and baby places it squarely on top of table. Age three weeks.

FIGURE 2

Parachute response in eleven-month-old baby as it is plunged toward table top.

FIGURE 3

Abduction, extension, and scissoring of legs in vertical suspension in space. Baby of four months with spastic diplegia.

brought in as a "floppy infant" (differential diagnosis must be made from the numerous other causes of this syndrome) with parental complaint of slow motor development. Later, but with quite variable rapidity, the limbs develop spastic hypertonus while the trunk and neck remain hypotonic for some months. The latter persistent hypotonia is most evident if one places the baby in the sitting posture (he will immediately slump to one side, or forward with head to the table), or attempts to draw him up to the sitting position from the supine by traction on the hands. Poor head and neck control in the latter maneuver is usually striking. Acquisition of independent sitting and standing balance is usually but not always considerably delayed in cerebral tetraparesis, in contrast to relatively modest delay in hemiparesis (unless accompanied by general psychomotor retardation). Hypertonus of the trunk and at the hips may develop in advance of sitting balance, so that, when pulled up from the supine posture, the infant "stands up rather than sits up," without flexion at the waist of the hip joints.

Legs More Severely Affected

In by far the majority of cases of future spastic tetraparesis, the legs are more severely affected than the arms, and the earliest diagnostic clue is usually extension, adduction, and frequently scissoring of the legs when the infant is suspended vertically in space by the axillae (Figure 3).

The placing response is usually depressed and ineffectual, and contrasts with a good positive supporting reaction, in which the legs stiffen at the hips and knees to bear a portion of body weight, when the infant (still in vertical suspension) is lowered to permit the feet to make firm contact with the table top. Like placing, this supporting reaction depends more on proprioceptive than on tactile stimuli; but the discrepancy results from an early increase in extensor tone in the legs, which is an asset in supporting but a disadvantage in

placing. Comparison of the two automatisms often confirms early and subtle changes, of which it would be difficult to feel confident by direct manipulation of the limbs. Standing on the toes and scissoring of the legs are often observed while testing the supporting reaction. These phenomena must, however, be interpreted with some caution, since premature infants normally stand and walk (supported, of course) on their toes in the early months, and a tendency to scissor the legs is normal in the automatic "walking" or stepping of full-term infants, which persists for two or three months after birth in many instances. Adductor spasm or "grab," which is felt by the examiner on suddenly abducting the legs of the supine infant, is of course a well-known clue to spasticity, but appears later than the foregoing signs.

In horizontal suspension in space, the baby with spastic tetraparesis or with any other form of cerebral palsy involving delayed postural maturation is abnormally late in being able to raise his head and legs, and there is corresponding delay in the Landau reflex of flexion of the legs when the head is forcibly flexed by the examiner (Figure 4). One must bear in mind that similar delay occurs in the presence of any other hypotonic state (amyotonia congenita, Tay-Sachs Disease, mongolism, and others) and frequently with mental retardation alone, if accompanied by late motor milestones.

The parachute response is almost always late in appearance, and qualitatively poor, in babies with tetraparesis, and if asymmetric offers a clue to the side of great involvement. This response depends on visual as well as on vestibular stimuli, and is thus hard to interpret if vision is impaired.

Constant fisting of the hands beyond the age of four months is a major sign of tetraparesis, which will more often prove spastic than dyskinetic ("athetoid"). Delay in reaching and grasping, and a stiff manner of reaching, are subsequent stages in the evolving picture.



FIGURE 4

Landau reflex at eleven months. In horizontal suspension, forced flexion of head is followed by flexion of legs at hips and knees.

The tonic neck reflex of Magnus⁵ is almost always abnormal in infants with bilateral cerebral palsies who lack sitting balance, and lack of the reflex under such circumstances is evidence strongly suggestive of some other diagnosis. A positive response consists in extension of the arm, the leg, or both in the direction toward which the head is rotated, with flexion of the opposite limbs. Abnormal tonic neck reflexes are rarely seen in the newborn, whether abnormal or not, but are to some degree a normal feature of the period from one to four months of age. They can to some extent be imposed at this age, when the examiner passively rotates the infant's head, the pattern appearing either immediately or after an interval of 15 seconds or so. However, the reaction should not be absolutely obligate and stereotyped on every occasion, and the baby should normally be able to break through the pattern on struggling. An obligatory response, which is maintained indefinitely on all occasions, is abnormal at any age (Figure 5). Normal infants may display a somewhat greater tendency to assume tonic neck patterns on active rotation of their own heads, than can be passively imposed by an examiner. By about six months of age, however, a baby should spend no greater proportion of his time in a tonic neck pattern than with the limbs in the contrary posture. It is obvious that interpretation as to whether or not a particular

degree of tonic neck reflex is abnormal at an age under six months, requires some experience and judgment, but the response remains one of the most valuable signs of early cerebral palsies. One should be reminded that the sign is also present in Tay-Sachs disease and other degenerative encephalopathies, as well as after a diversity of postnatal decerebrating catastrophes.

At four to six months, the tonic neck reflex begins to be succeeded by the neck-righting reflex. In the latter, when the head is actively or passively turned to the side, the shoulders rotate in the same direction, followed by the trunk, pelvis, and legs, so that the infant is then lying on its side. This is a useful automatism in getting from the supine position onto the side and then onto the abdomen, followed by getting up in the quadrupedal manner. It is retained in a degree until the child is able to get directly from supine to sitting to standing in the adult fashion. Thus a degree of neck-righting reflex can be expected to persist until a year or more of age, but in the later months it is more a mechanism of which voluntary use may be made, than an impossible reflex. Again, interpretation as to degree requires experience, but late-persisting and abnormally obligate neck righting reflexes are commonly found with cerebral palsies.

Clinical States

Even more than in the case of future bilateral spasticity, the evolution of the clinical picture varies with those infants who are to develop the dyskinetic types of "unwanted movement" (a better term than "involuntary," as it chiefly accompanies and complicates attempted volitional movement) usually categorized as extrapyramidal, or "athetoid." However, some of the commoner variations on the theme can be described and classified.⁶ Opisthotonos, rigidity, abnormal Moro, and downward deviation of the eyes characterize the newborn with Kernicterus due to neonatal jaundice, but most other future "athetoids" are initially hypotonic (a type of the "floppy infant"). The tendon reflexes, however, are normal or even over-lively in contrast to the diminished muscle tone. The face is more often than not blank and inexpressive, even in patients who later prove to have normal intellect. The respiratory pattern may be disorganized. It should not be confused, however, with the paradoxical retraction of the chest on inspiration which is seen with amyotonia congenita or spinal cord transection, conditions which superficially resemble the extrapyramidal types of cerebral palsy in the early months. Tonic neck reflexes are usually conspicuous, and help greatly to distinguish the cerebral palsies from the other conditions mentioned. Achievement of sitting balance, and the ability to roll over, are almost always delayed, and the plac-

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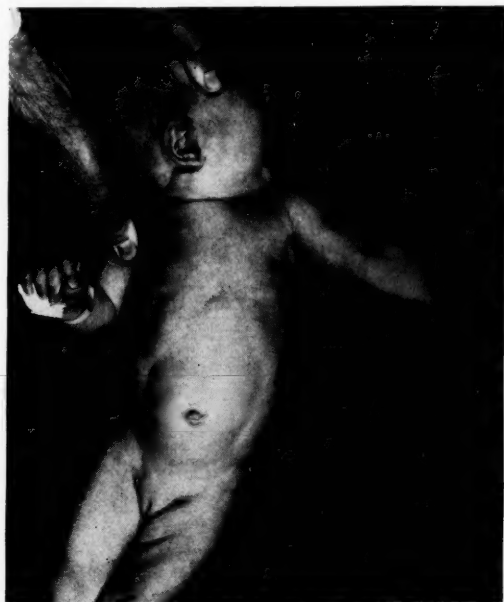


FIGURE 5

Obligatory tonic neck patterns at age four months, maintained for an indefinite period despite patient's struggling. This degree of impossible pattern is abnormal at any age.

ing, supporting, and parachute automatisms are absent or chaotic. In vertical suspension in space, the head lolls forward or backward or to one side, and the legs dangle. In horizontal suspension, the body usually collapses into the shape of an inverted letter "U." As the picture evolves, the baby is likely, but not certain, to develop dystonic spasms in which, spontaneously or especially on sudden shift of position, the head retracts as if in opisthotonos, the trunk becomes rigid, and the arms and legs extend, the arms being somewhat internally rotated and the hands usually fisted. These spasms, which also occur in the evolution of spastic diplegia, are momentary or of a minute's duration, and are distinguished from convulsive seizures by retention of consciousness and by the absence of clonic movements.

In the extrapyramidal group of cerebral palsies, the hands are less constantly fisted than in spasticity, but the fingers show a variety of disorganized and ineffectual postures. Reaching and grasping are delayed, and may be replaced by wild, totally ineffectual flailing motions. In other cases, athetotic postures and instability may be detected as early as nine months by a keen observer. The earliest sign of athetosis is often an avoiding reflex of the hand, with spreading and hyperextension of the fingers, followed by skirting around the object and taking it with a back-handed grasp (Figure 6). It has been stated that athetosis develops, if at all, in most instances under the age of two and one-half years, in a significant proportion of cases not until three, but rarely under a year.⁶ Early athetosis is commoner than usually recognized, but is more often ultimately mild than severe, possibly because the child who is going to have very severe athetosis later on, is usually unable to grasp at all in the first year or two. Finally, it should be added that pure

athetosis is a relatively uncommon type of cerebral palsy. Most patients also have choreiform jerks or twitches, or show dystonia of the trunk and proximal limb musculature. Dystonia is frequently the most severely handicapping unwanted movement for walking and hand function, and even for speech, as it prevents maintenance of a steady uniform flow of air to the larynx. Dystonia of this type most commonly appears later than infancy, unless as a persistence in somewhat altered form of the dystonic spasms already referred to, which more frequently cease in late infancy, or are followed by hypertonicity.

Earlier diagnosis of "cerebral palsy," and to some extent a prediction of probable type, is considerably facilitated by knowledge of the clinical states mentioned, and by increasing experience with the automatisms and postural attitudes described. However, in every case one must consider the differential diagnosis of changing symptomatology gradually evolving from a more or less static brain lesion, from the highly similar symptomatology which may result from acute or progressive diseases, some of which are directly treatable. Prognostic statements can usually be made only after a series of examinations separated in time. A few infants show definitely abnormal findings of the types described, which later entirely disappear, with either mental normality despite slow motor development,⁷ or else greater or lesser retardation. In other instances, the apparent type of involvement will change, and signs of spasticity or dyskinetic movements may appear in a patient first thought to belong in the other classification. Mixed types of cerebral palsy are not so uncommon as often believed, but are rarely apparent as such in infancy. The distribution may also undergo evolution: particularly, what is thought to be mono-

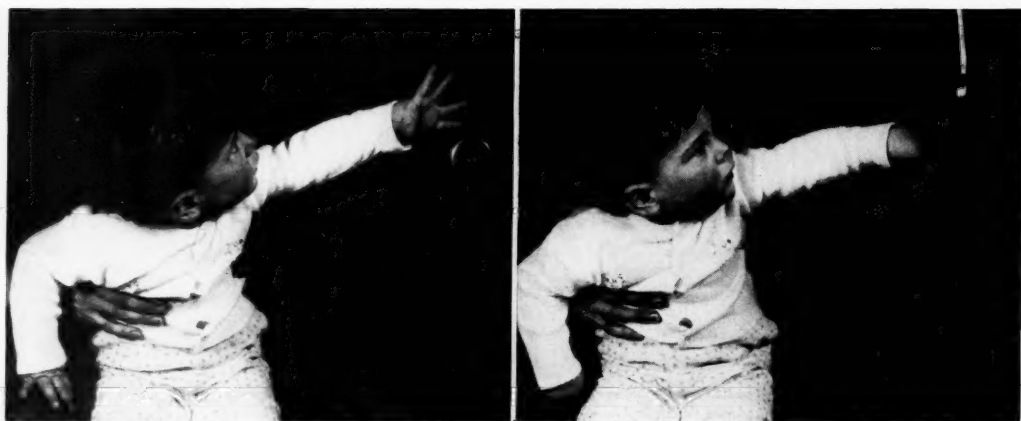


FIGURE 6

Early athetosis in child of one year, with avoiding reflex of hand.

paresis more often turns out to be hemiparesis, and paraparesis to be tetraparesis. The longitudinal follow-up of the collaborative study of the National Institute of Neurological Diseases and Blindness should ultimately do much to clarify the immediate implications and prognostic value of the infantile automatisms and postural patterns which have been described, but much use can be made of them in the meantime toward the earlier recognition of infants suffering from cerebral palsies.

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SPEAKING OF SUNDRY ITEMS

What's in a medical bill?

Practically everything that can be stuffed into and under the family medicine chest, including Fido's flea powder.

According to federal calculations, Americans spent \$4.8 billion in 1959 for drugs and appliances. More than \$500 million of this expenditure went for such items as water bottles, fountain syringes, household gloves, ice bags, heating pads, sun lamp bulbs, sun glasses, first aid kits, snake bite outfits, and pharmaceutical preparations for pets and for use by veterinarians.

*Progress Notes . . .***PRESENT-DAY MANAGEMENT OF DIABETES*****GARFIELD G. DUNCAN, M.D.**

The Author, Garfield G. Duncan, M.D., Professor of Medicine, University of Pennsylvania; Director of Medical Divisions of Pennsylvania Hospital and Benjamin Franklin Clinic, Philadelphia, Pennsylvania.

PROGRESS IN THE TREATMENT for diabetes has complicated rather than simplified the remedial program employed. There is a wide variety of diets, each one of which has its advocates; there are eight insulins and a variety of mixtures of insulins to select from; and there are three oral preparations which may be employed singly or combined and with or without insulin.

The appropriate selections from these measures for the individual diabetic patient presuppose an understanding of diabetes in the broadest sense and of the properties of the drug or drugs selected. The failure to employ the optimal advantages at hand by partial treatment may be because authorities in this subject have not achieved their teaching objectives; the physician may never have had the opportunity of seeing diabetes well controlled and the gratifying results that ensue; or, it may be his doctrine that partial treatment is good enough. Alone or combined, these shortcomings encourage the progression of degenerative changes. It is not enough to make a severe diabetes appear mild or to secure adequate control for only a few hours out of each twenty-four. Partial treatment is better than none but surely it permits a harvest of tragedies.

It is because of the inferences indicated above that attempts have been made to put various measures in their appropriate perspectives and, in doing so, involve principles that could be put to good advantage in plans other than those outlined. Also, it is better that we should attempt to simplify therapy without restraint than to let the profession be infused with one-sided but nevertheless simple plans born of commercial interests.

The Diet. Total Calories

Reduction of the total caloric intake sufficient to reduce the overweight is desirable. This effective measure will suffice to control the diabetes, barring

*The Fried Lecture presented at the Newton-Wellesley Hospital, Newton, Massachusetts, April 20, 1961.

acute complications, in the majority of diabetic patients.

For the overweight patient having no acute complications, one has the choice of supplementing undernutrition with an oral agent. The patient develops the proper perspective, however, if success is achieved by diet alone. Otherwise, the diet becomes secondary in importance to drug therapy. If the attractive temptation to substitute drug therapy for undernutrition is adopted, glycosuria is corrected and the obese state is intensified as a result. Is this better or worse than allowing glycosuria to neutralize the surplus dietary intake and by doing so encourage the progression of degenerative changes? Both schemes represent clinical failures. There is no legitimate substitute for the reduction of the obese diabetic.

Occasionally control of the diabetes in the obese patient with the aid of tolbutamide, chlorpropamide, or long-acting phenformin serves the purpose of alleviating the intense desire for food that is often associated with uncontrolled diabetes. Drug therapy should be eliminated as soon as the reduced caloric intake is adequate to control the diabetes.

Carbohydrate

The carbohydrate is necessarily reduced in the undernutrition regimen. For diabetics who are normal or under normal in weight and who are receiving liberal diets, we have steadily increased the carbohydrate allowances until they are as close as is practicable to that in the diet for the normal individual without appreciably increasing the difficulty in controlling the diabetes. Quotas as high as 250 gm., or more, are common. Satisfactory blood sugar levels around the clock are obtained in most cases with such allowances when appropriate insulin therapy and distribution of the diet are maintained. In the final analysis, it is the total calories and not the carbohydrate that exerts the greatest effect on the need for insulin.¹

The liberalizing of the carbohydrate permits less fat. One wonders how much the relatively high fat content of diets for diabetics has contributed to the progression of atherosclerosis. I am convinced that it has had this effect; hence we allow more liberal amounts of protein and carbohydrate in diets for

our patients than is generally employed or was formerly the case in our own practice. The subsidence of anginal attacks in the atherosclerotic diabetic with an elevated serum cholesterol when the fat content of the diet is low and when it is provided, for the most part, in the unsaturated form is sufficiently frequent to warrant an exploratory long-term application of this regimen. The beneficial effect in cases of diabetic retinitis when the fat content is reduced to 20 gm. per day is an added stimulus to give this plan of diet therapy in such cases an adequate trial.⁴

Insulin Therapy

Plans of insulin therapy which have stood the test of time and comparative studies are:

(A) A single dose of an intermediate-acting insulin (Globin, NPH or Lente) given one hour before breakfast. Employed for relatively mild cases, in which the subjects are not overweight, this regimen, when adequate, has been largely replaced by oral therapy.

(B) A mixture of a rapidly acting and an intermediate-acting insulin, notably NPH (Iso-phane) insulin, given before breakfast, is used when an intermediate-acting insulin fails to prevent hyperglycemia during the forenoon. Some of these patients achieve good control with tolbutamide, chlorpropamide or long-acting phenformin without insulin.

(C) For the juvenile type of diabetes characterized by marked lability of the blood sugar, an additional small evening dose, after supper, of an intermediate-acting insulin is necessary to avoid nocturnal hyperglycemia. This dose is usually given after, but in some cases before, supper, and in others at bedtime. None of my patients who has needed this plan of insulin therapy has been able to substitute oral therapy for it. A small percentage achieve adequate control with a mixture of 2:1 or 3:1 of crystalline and protamine zinc insulins. Beyond this occasional use, there is no apparent need for protamine zinc insulin in the therapy for diabetes.

(D) Crystalline insulin has a quicker blood sugar lowering effect than semi-lente insulin and hence is the insulin of choice in the early management of the ketotic patient. Either of the rapidly acting insulins, crystalline or semi-lente, is well suited for the management of diabetes during acute complications when the diet is divided into four equal feedings given at six-hour intervals.² All insulins are effective in reducing the blood sugar, and while various combinations and mixtures may serve well, we have found that the foregoing plans of therapy, as illustrated in Table 1, give the most predictable results.

Oral Therapy

Oral drug therapy idealistically has a small field of usefulness in the treatment of diabetes. Realistically the opposite is the case. If we agree that 80 per cent of the diabetic population is sufficiently overweight to allow control of the diabetes by restoring a normal nutritional state, none of these patients is a candidate for oral therapy. To these can be added at least an additional 5 per cent, the juvenile diabetics, and another 5 per cent who are adults but who have a juvenile type of diabetes in whom the sulfonylureas are ineffective. There remains 10 per cent who are "ideal" candidates for sulfonylurea therapy. These patients are not overweight and have an adult-acquired stable type of diabetes. They cannot afford to lose weight, but tolbutamide, chlorpropamide, or long-acting phenformin (DBI) may be satisfactorily effective in at least 75 per cent. Though this is the ideal group, yet in it most secondary failures to sulfonylurea therapy occur. It should be said, however, that the diabetes in some of these cases has been more easily and better controlled with a sulfonylurea than with insulin.

Sulfonylurea Compounds

(A) Tolbutamide is the drug of choice if good control of the diabetes is achieved with it. Side effects are rare if the daily dosage does not exceed 1 gm. Half a gram of tolbutamide given before breakfast may suffice. If more is needed, the same amount is given before lunch. These two doses exert their maximum blood sugar lowering effect during that period of the 24 hours when three meals are consumed in relatively close succession, and this effect is on the wane during the night when no food is taken.

(B) Chlorpropamide, unlike tolbutamide, attains a blood sugar lowering concentration in the blood which is maintained throughout the 24 hours by the administration of one dose per day. Also, it is significantly more potent than tolbutamide in its blood sugar lowering effect. Because of these features, hypoglycemic episodes may occur between midnight and breakfast, hence the need of giving a bedtime nourishment. The maintenance daily dose of chlorpropamide varies from 0.25 to 1.0 gm. Half a gram is the amount most frequently used.

These two sulfonylurea compounds are ineffective in the juvenile diabetic or in the adult who shows prompt and increasing amounts of acetone in the urine when the amount of insulin given is appreciably reduced. Furthermore, they are ineffective during febrile episodes and infections. Whether or not these drugs will serve as effective supplements to insulin therapy in the "juvenile type" of diabetes is not definitely established. In our experience, when apparent benefit was noted, it appeared

continued on next page

to be attributable to increased attention to the diet, by the less reliable patients, during the studies.

An appreciable reduction in the amount of insulin needed has, however, been noted in our experience³ in the very occasional patient who is normal in weight or is underweight, has a labile diabetes, and requires unusually large amounts of insulin, between 100 and 200 units. This result is exceptional. These rare patients violate the usual rule in that they develop ketosis readily with a considerable reduction in the insulin dosage, and yet the sulfonylurea has a moderately favorable effect on the insulin requirement but not to the degree which would allow its omission. The relative places of the three oral preparations in the treatment of diabetes in its various grades of severity are indicated in Table 1.

Phenformin (DBI) is a blood sugar lowering biguanide effective in severe and labile as well as mild adult-acquired diabetes. In its rapidly acting form, it has its chief field of usefulness in the treatment of patients with labile diabetes. When tolerated, it reduces somewhat the need for insulin and tends to decrease the apparent lability of the diabetes.

The high incidence of nausea and vomiting, 20-50 per cent, caused by the rapidly acting phenformin in commercial use, curtails greatly its field of usefulness. However, these side effects can be considerably reduced and prevented if the initial dosage is small, 12.5 mg. with each meal with increases of 12.5 mg. to each dose at two or three day intervals. A total dosage above 150 mg. per day is rarely indicated.

A long-acting phenformin has increased the potential value of this drug. The active principle in

this product is released gradually over a twelve-hour period. This slow release permits a longer and more uniform action, but of special value is the remarkable decrease in the incidence of gastrointestinal disturbances when contrasted with the effects of the rapidly acting phenformin. Doses of 100 mg. before breakfast and an equal amount or less before supper have in some cases eliminated the need for an evening dose of insulin, have reduced the total amount of insulin needed, and have reduced the lability of the concentrations of sugar in the blood.

SUMMARY

There is no substitute for diet therapy in the treatment of diabetes. Claims that more than one half of the known diabetics in this country are receiving tolbutamide suggest a gross violation of this conservative truism.

More liberal quotas of protein and carbohydrate are indicated as a practical means of reducing the fat content of the diets. This seems to be especially desirable for the atherosclerotic patient with hypercholesterolemia. Also, in these cases benefit accrues when the fat is provided in a high proportion of unsaturated forms.

Insulin in one form or another, or in suitable combinations, and with proper timing of its administration, is the most effective anti-diabetic agent known.

Oral therapy is a treatment of convenience and not of necessity. The sulfonylureas are most effective, numerically, in those patients whose diabetes can be controlled without drug therapy. They have, however, a justified place in the management of

TABLE I
Contrasting Therapies for Diabetes

Established Illustrative Therapies	Current Therapies — 1961
I. Diet Only Overweight Patient	Diet Only — Except in Selected Cases. Tolbutamide, Chlorpropamide or Phenformin (Long Acting) in Selected Cases
II. Small Dose of an Intermediate Acting Insulin Before Breakfast Patient a Trifle Overweight or of Normal Weight	Insulin Usually Replaced by Tolbutamide, Chlorpropamide or Phenformin
III. Intermediate Acting Insulin With Crystalline Insulin Added, e.g., 24 Units NPH and 8 Units Crystalline* Before Breakfast For Underweight Adult With "Adult-Acquired" Diabetes	Secondary Failures to Sulfonylurea Therapy Most Frequent in Underweight Adults
IV. Intermediate and Rapidly Acting Insulins, as a Mix- ture Before Breakfast and a Small Dose of Inter- mediate Acting Insulin After Dinner For Patients With Labile Diabetes	Insulin Supplemented by Phenformin (Long Acting). Evening Insulin May be Replaced, Total Dose of Insulin Reduced and Lability of Diabetes May be Reduced

*Mixtures of Lente and Semi-Lente Insulins May Serve Equally Well.

approximately 10 per cent of diabetic patients. They are effective supplements in the treatment of the overweight diabetic but the likelihood that such effective agents might receive widespread adoption as a substitute for appropriate dietary measures must be guarded against. Failing in this would, and apparently does, mean that diabetes in this preponderant group of overweight subjects is not being as well treated, in the over-all picture, as it was before these drugs were available.

Phenformin is a potent blood sugar lowering agent and may prove to be of long-term value in the management of the mild as well as the juvenile types of diabetes. This has not yet been established. Phenformin is not considered a suitable substitute for sulfonylurea compounds in cases in which the latter are satisfactorily effective.

The optimum therapy for diabetes depends upon diet, insulin, and oral preparations being kept in their proper perspectives.

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PHYSICIANS WHO PERFORM SURGERY

Briefly, about 7 in 10 of the in-hospital surgical procedures in this country during 1957-58 were performed by specialists in surgery (either full-time or part-time) and about 3 in 7 of all these procedures were by board-certified surgeons. About 30 per cent of the in-hospital surgical procedures were performed by physicians who reported that they did not specialize in surgery. Among them, general practitioners in private practice accounted for the largest proportion, 22 per cent of all surgical procedures.

Full specialists in surgery and board-certified surgeons did a larger share of the surgery performed in the following hospitals than they did in other types of hospitals: "accredited" hospitals, large hospitals, and hospitals located in counties within smaller metropolitan areas. Compared with other doctors they were more likely to perform gastrointestinal and urinary operations, less likely to perform dilatation and curettage (unrelated to miscarriages), tonsillectomy and/or adenoidectomy, and appendectomy. Their patients stayed longer in the hospital.

... Abstracted from:

PROGRESS IN HEALTH SERVICES,
Health Information Foundation
Vol. X, No. 6, June, 1961.

THE JOHN F. KENNEY CLINIC DAY PROGRAM

Pawtucket Memorial Hospital

Wednesday, October 25, 1961

MORNING

10:00 A.M. . . .

A TERM EXTRAUTERINE PREGNANCY

(A Case Report)

HENRY E. TURNER, M.D.

10:20 A.M. . . .

CONGENITAL HYPOTHYROIDISM

JOSEPH H. DOLL, M.D.

ORLAND F. SMITH, M.D.

PHILIP J. LAPPIN, M.D.

10:55 A.M. . . .

THE ESOPHAGEAL EKG IN THE DIAGNOSIS OF CARDIAC ARRHYTHMIA

ARTURO LONGOBARDI, M.D.

EDWIN F. LOVERING, M.D.

11:15 A.M. . . .

LUNG BIOPSY

JOHN J. YASHAR, M.D.

11:35 A.M. . . .

INTERCOSTAL PHENOL NERVE BLOCK

EDWARD DAMARJIAN, M.D.

12:30 P.M. . . .

LUNCHEON

AFTERNOON

2:00 P.M. . . .

A SYMPOSIUM ON SOME OF THE CLINICAL PROBLEMS RELATED TO THE UPPER GASTROINTESTINAL TRACT

Presented by the Labey Clinic

F. WARREN NUGENT, M.D.

Department of Gastroenterology

CORNELIUS E. SEDGWICK, M.D.

Department of Surgery

DAVID JOHNSTON, M.D.

Department of Radiology

Followed by

ROUND-TABLE DISCUSSION

Moderator: RUSSELL S. BRAY, M.D.

Department of Medicine

Rhode Island Hospital

Editorials

FOREIGN TRAINED PHYSICIANS IN RHODE ISLAND

THERE ARE 162 graduates of foreign medical schools licensed to practice in Rhode Island, exclusive of the forty-eight graduates of Canadian schools and of those physicians who have become licensed during the past year. There are also about thirty who are training as interns or residents, and six or seven who are working in laboratories or serving as "clinical clerks" while awaiting the American Qualification Examination which will be held next October. Of the interns and residents who have received either full or temporary certification by the Educational Council for Foreign Medical Graduates only ten are interns. Exclusive of the Rhode Island Hospital whose twenty interns are all graduates of American universities, there are forty-six approved internships in Rhode Island. This means that thirty-six positions are unfilled.

The waste of existing opportunities for foreign graduates in our state is also not without its damage to our citizens. The presence of interns enables a hospital to furnish more complete and better care to its patients than is possible without such a staff. A good group of interns and residents insures that the care of the sick will be prompt and complete. Furthermore, it is well understood that physicians and surgeons who are the teachers of interns and residents must keep themselves well in touch with the progress of modern medicine. Thus the house staff contributes to the practice of better medicine by the attending staff.

The present shortage of foreign graduates available for appointment as interns is due to the necessity for the Council on Medical Education and Hospitals of the American Medical Association to insist that clinical care of hospital patients be carried out by house officers who are graduates of foreign medical schools only if these physicians have received either full or temporary certification by the Educational Council for Foreign Medical Graduates or are fully licensed in the state in which they are located. The main purpose of the plan is, of course, to assure that American citizens be cared for by physicians of whose competence there can be reasonable assurance. Previous to its implementation it was not possible for a hospital to be certain that doctors accepted as interns were really quali-

fied. In some instances, despite every effort on the part of hospitals to make careful selections, poorly trained interns have served on hospital staffs. With the present regulations in force, the hospitals and their patients have a reasonable degree of protection against such a situation. Unfortunately in some instances it has meant instead of the risk of having some substandard interns, the certainty of having none at all.

Thus far approximately 26,000 foreign trained physicians have taken the American Qualification Examinations of the E.C.F.M.G. and about 19,000 have obtained either full or temporary certification. How then can one explain the shortage of physicians available for appointment as interns? As there are over 5,000 more approved internships than can be filled by American and Canadian graduates should not the number of certified graduates of foreign schools be more than ample to fill the need? It should but it doesn't.

This is the probable explanation. Of those who have become certified a large number were at the time of the examination already on duty in American hospital residencies or in internships which they have now completed. Such physicians are either continuing graduate training, have taken other positions, or have returned to their homelands. Of those who have recently passed the examination abroad a number have been delayed in coming to the United States because of inability to attain visas under the present immigration laws. Such physicians will eventually arrive but at the moment, despite requests for preferential approval, many will have to wait for months or years for their turns in the overloaded quotas of their countries of origin. One hospital in this state holds six or more contracts signed by foreign doctors who have not yet been able to obtain visas.

It is not possible to be at all certain of the future. An increase in the number of certified foreign graduates coming to this country for clinical experience in medicine seems most probable. That there will be a sufficient number to fill all available approved internships in our hospitals seems most unlikely. As a result there will be competition for those who come. Beyond a doubt the value of an intern staff

has been definitely emphasized to attending physicians and surgeons because many have had to add the duties of interns to their already heavy responsibilities of practice. What can they and their hospital administrators do to increase the likelihood of success in the rehabilitation of their interns? It is safe to say that offers of excessive stipends will get them nowhere as it is generally understood by applicants that the hospitals presenting this kind of inducement have little else to offer. On the other hand the furnishing of good living conditions, especially for the families of married interns, is a very legitimate and reasonable way to attract good candidates. The main factor, however, is and has

always been the quality of the educational experience which a hospital can furnish to the graduate, either foreign or American. It therefore behooves those hospitals which are now without interns, or are working with definite shortages, to increase the quality of their educational programs and to enhance the reputation of their hospitals in this field. That the approval of a number of training programs may be canceled seems most likely. The community hospital of the future must be an educational center and those hospitals which are able to achieve and deserve a high reputation in this phase of their work will be the ones whose patient care is enhanced by the work of interns and residents.

THE RHODE ISLAND STATE DIVISION OF ALCOHOLISM

QUIETLY AND WITHOUT FANFARE this excellent unit of the State Department of Social Welfare marks its tenth anniversary. Founded in 1951 upon recommendation of a special commission appointed in 1949 by the then Governor Dennis J. Roberts, it has pursued its objectives efficiently and with devotion. Its present staff, headed by Doctor Antonio Capone, consists of five physicians, including specialists in psychiatry, and seven technical associates of various categories, representing social service, nursing, and clinical psychology. Its permanent headquarters are at 94 Doyle Avenue, in Providence, where regular clinics are held. Contact can be made in Woonsocket and Westerly through public assistance facilities, and in Newport, where a weekly clinic is held. There is a permanent Advisory Council of fourteen responsible citizens, headed by a psychiatrist and having representatives of the clergy, the medical profession, and the bench.

Contact with the Division's treatment facilities is simplified by permitting application by the patient with or without appointment by telephone, or in person. Application may also be made by the patient's family, his employer, clergyman, or any interested party. The Division looks upon alcoholism as a sickness constituting the fourth largest

public health problem in America, and yet one that is amenable to treatment. Any alcoholic can be helped, *if he is willing to accept assistance.*

The work of the Division is divided into four categories: treatment, education, prevention, and research. Outpatient treatment is provided in the Division's own clinics. In addition it arranges for hospitalization when necessary, and provides social service and rehabilitation counsel. Its educational program is directed variously to the general public, professional groups, for which it also provides consultative services, and civic and community groups. School and college students are reached through discussion groups and through teacher training. Finally, the Division conducts clinical research on treatment techniques, various drugs, causative factors, and personality attributes. Treatment is available to any resident of Rhode Island who applies for help. There is no connection with Alcoholics Anonymous, but suitable patients are not infrequently recommended to that program.

An excellent and intelligent brochure titled *Facts and Fancies About Alcoholism*, written by Helena H. Shea, the Division's chief clinical psychologist, is available upon request both to patients and to members of the medical profession.

MATERNITY CARE: A NEW CONCEPT

THAT there has been a progressive decline in maternal mortality is amply demonstrated by recent statistical studies. These studies also show that there has been a significant increase in the frequency of early visits to a physician, average number of prenatal visits, and use of hospitals for delivery. Surely it is not stretching any cause and effect relationship to conclude that a decline in mortality results from improvement in prenatal care.

Many diseases once considered incompatible with a successful pregnancy may now be adequately treated with a resulting healthy live infant.

Lack of education is at least as important a deterrent to the wide use of medical care as is low income. This was demonstrated in a recent five-year survey of the extent of maternity care in the United States. The survey was conducted jointly by Health Information Foundation and the National Opinion

continued on next page

Research Center, University of Chicago. The results of this study were compared with those of a parallel study conducted five years earlier. In both periods, the percentage of prospective mothers first seeing a doctor early in pregnancy increased with the educational attainment of the mother. Thus in 1952-53 those seeing a doctor during the first trimester of pregnancy constituted 42 per cent for the group of "eighth grade or less"; 58 per cent for

those with "some high school"; 72 per cent for those having "completed high school," and 90 per cent for those with "some college." In the 1957-58 survey, the comparable figures had risen for all except the "some college" mothers to 57, 75, 79, and 88 per cent respectively.

In both periods, the expenditure for maternity care per family varied from under \$100 to over \$300.

Expenditure per Family for Live Births	1952-53		1957-58	
	Hospital & Home Births Combined	Hospitalized Births Only	Hospital & Home Births Combined	Hospitalized Births Only
Less than \$100	20%	11%	9%	8%
\$100-\$299	61%	69%	53%	54%
\$300 & over	18%	21%	38%	28%

Among hospitalized mothers of low income families, 11 per cent received free hospital care in 1952-53, and 9 per cent in 1957-58. In the 1952-53 survey 3 per cent never saw a doctor; 6 per cent saw a doctor, but paid nothing.

The proportion of mothers receiving care early in pregnancy increased markedly between the two surveys. Those seeing a physician during the first or second month rose from 38 per cent to 51 per cent; those seeking medical care by the end of the third month rose from 65 per cent to 77 per cent. Conditions thus are improving, but there is still considerable room for progress.

As late as 1935, maternal mortality varied between 60-70 deaths per 10,000 births. As a result of continued advances in the therapy and control of maternal complications, this tragic rate has now decreased to 3.8 per 10,000 live births in 1960. Yet there still remain mothers in the prime of life who die. Why? The use of health services in maternity care, the expenditures for this purpose and the insurance benefits covering these expenditures, and the free care generally available for those who cannot pay for obstetrical services all show an increase in the five-year span covered by these two comparable surveys. Maternity care now accounts for about 5 per cent of all out-of-hospital visits to physicians in this country, as well as 11 per cent of the nation's total private expenditure for all health services. This is a trend in the right direction; but obstetricians still have not convinced enough patients that early and more frequent visits have important preventive benefits which will pay dividends in better health for both mother and child.

Preconception care, as a routine part of maternal service, is a new concept, and offers a means of reaching the prospective patient early. A wise physician once said that he could save more mothers and more babies if he were to see each pregnant mother the night before she conceived. This logi-

cally implies providing instructions at the teen-age level. Physicians should participate in organized pre-marriage and marriage health seminars. Advice on the importance of children in the family, the fertile period, and the signs and symptoms of pregnancy provide the young couple with a sobering view of the purposes of marriage and establishes a healthy doctor-patient relationship. The couples oriented by preconception instruction are natural candidates for early prenatal and postnatal care.

An informed public is essential, if better use is to be made of available preventive medical services and the future health of both mother and child assured. If a pattern of positive preventive medicine can be established with the mother in prenatal—or even better, preconception—care, this pattern of behavior may carry over into the management of subsequent illnesses. A mother who has gained a favorable impression of her maternal care and who has been convinced of the value of preventive medicine will see to it that her children and husband are also protected. The doctor-patient relationship also is improved by thus establishing good will. The process of bringing about this recognition and appreciation of the value of medical services is one primarily of communication.

The Rhode Island Department of Health, through its Maternal and Child Health Division in co-operation with the United States Department of Health, Education and Welfare Children's Bureau has developed a pilot program of mothers' classes for expectant mothers. Physicians in the Rhode Island area can refer their patients to these classes, which are limited to fifteen members each. The group discussion method is used, rather than that of a set curriculum, and the emphasis in the discussion groups is on patient-centered care within a family-centered atmosphere. By seeing other members in the group who are "in the same boat," the mothers' learning has a more personal mean-

ing. This group participation impels the mother to take the doctors' instructions more seriously, thus influencing a more intelligent behavior in this respect in all members of the family.

Emphasis on positive preventive medical care, emphasis on the total maternity care concept, emphasis on an active program under the doctor's supervision for early education of the couple may help to bring about a desirable open line of communication between available medical care and the potential patient. Thus the purpose of medical services is not primarily the treatment of illness, but rather the warding off of potential ill-health. This is the dividend on an investment in preventive medicine, using medicine to build in a positive sense rather than to mend.

THE SCRUB NURSE — A VANISHING SPECIES

...The scene is at one P.M. in a general hospital. The surgeon who could not get any operating room space in the morning has gulped down two cups of cold, bitter coffee and is waiting for the morning crew to vacate the room. When he finally enters the scene an hour late, he finds a circulating nurse showing the instruments to a recent graduate who has only scrubbed twice before. There are three student nurses standing around as observers, a nurse's aide whose aseptic conscience has not yet been developed, and a number of nondescript floating personnel who are scrubbed, capped, and masked for "on the spot" training.

The exploration of the common duct proceeds slowly. The surgeon is aware of this, since at another teaching institution he would now be halfway through. By three o'clock, the nursing staff shows signs of visible and audible restlessness. The changing of the guard is about to take place, some of whom may never show up, but the characters who now appear defy description and may be a subject of another communication. With much moving about, stirring up air currents, bacteria, and overhead lights, the new shift has taken charge.

The circulating nurse is a grandmother who now helps out her alma mater. The instrument nurse likes the afternoon shift because she can sleep late in the morning. She is quite bright and has two interns in tow, one of whom might take her back to South America where, she gathers, one has a lot of servants. She has not the slightest interest in surgical procedures or in her role as part of the team. She is well aware of the vast shortage of nurses and knows that the chief has indoctrinated his staff to be lenient and understanding with the operating room personnel — "otherwise we will have nobody!"

The operation proceeds slowly with occasional interruptions because of lack of certain instruments, even although the surgeon is an accomplished technician. It terminates with one sponge missing, to be found after a long search, in a bucket, discarded by one of the "on the spot" trainees, saddled by this time with an instructor. ...

... Excerpt from Editorial

SURGERY, GYNECOLOGY & OBSTETRICS, April, 1961
by Geza de Takats, M.D., F.A.C.S.,
Chicago, Illinois

KENNEY CLINIC DAY
Wednesday, October 25, 1961
Pawtucket Memorial Hospital

SEMINAR ON GENETICS

Significant advances have been made in the understanding of the detailed structure of proteins in cells, known as DNA (deoxyribonucleic acid), RNA (ribonucleic acid), genes and chromosomes. It behooves all physicians to become well acquainted with these substances which play a vital role in cancer, virus infections, congenital malformations and anomalies and hereditary diseases.

The Rhode Island Hospital is sponsoring a seminar in this field, titled GENETICS. The seminar will be given by outstanding authorities and should furnish practical information useful to the practitioner in the understanding and treatment of the diseases previously enumerated.

PROGRAM

Moderator: ARNO G. MOTULSKY, M.D.

1. HUMAN CYTOGENETICS
DR. CURT STERN, Department of Zoology, University of California, Berkeley, California
2. GENE STRUCTURE AND GENE FUNCTION WITH SPECIAL REFERENCE TO DNA
DR. KIMBALL C. ATWOOD, Department of Bacteriology, University of Illinois, Champaign, Illinois
3. GENETIC FACTORS IN HEMATOLOGY
DR. ARNO G. MOTULSKY, Department of Medicine, University of Washington School of Medicine, Seattle, Washington
4. CLINICAL AND BIOCHEMICAL APPROACHES TO INHERITED DISEASES
DR. BARTON CHILDS, Department of Pediatrics, Johns Hopkins University School of Medicine, Baltimore, Maryland
5. CONGENITAL MALFORMATIONS
DR. JAMES V. NEEL, Department of Human Genetics, University of Michigan Medical School, Ann Arbor, Michigan

All Physicians are Invited

Date: Saturday, October 21, 1961

Time: 9:00 A.M. - 1:00 P.M.

Place: Rhode Island Hospital, Providence, Rhode Island

Admission Fee: \$3.00 (free to interns and residents)

IN THE EDITOR'S MAILBOX

TOWN OF NEW SHOREHAM
P. O. BOX D
Block Island, Rhode Island

Dear Doctor:

We are in need of a doctor for general practice in our town on a year round basis. We are an island community of about 500 inhabitants on a yearly basis of population, and approximately 4,000 population during the summer. Therefore a doctor's most busy season would be from June to October. There is no other doctor.

We are located twelve miles from the Rhode Island coast; one hour by daily ferry from the mainland, ten minutes by plane from Westerly, R.I., or twenty-five minutes by plane to Providence, R.I. from a well-maintained State Airport on Block Island.

We have a large house available for residence and office, with some medical equipment. The house is centrally located near a credited school from grades one to twelve.

The Island has four churches, consisting of Roman Catholic, two Baptist and one Methodist. We have a Volunteer Fire Department with a State accredited Rescue Squad, a State Nurse and related equipment for needed assistance.

We do not have a hospital or medical clinic as such on the Island, but we have close contact with adjacent mainland institutions, and immediate transportation available for transfer of patients to hospitals if necessary, by air or boat, in government, commercial or private facilities.

For information on the requirements of a Rhode Island Medical License, please contact Thomas B. Casey, Administrator of Professional Regulations, State Office Building, Providence, R.I.

For further information as to the aspects of our particular need, arrangements if any, and other pertinent data as to personal interview and acquaintance with the Island, please contact Town Clerk, Box D, Block Island, R.I., telephone Howard 6-2409 or Howard 6-2433.

Sincerely,

JOHN F. GRAY

(Member Doctor's Committee)

* * *

July 20, 1961

Dear Dr. Adelson:

I am addressing this letter to you with the hope that you will be able to help us in our effort to recruit physicians for our state institutions.

You are probably aware of the difficulty we are experiencing in recruiting physicians; and our Superintendent of the State Hospital for Mental Diseases, Doctor Sidney S. Goldstein, has made an excellent suggestion which we would like to explore.

We do hear occasionally of local physicians who, for some reason, do not wish to or cannot continue their private activity but who desire to practice on a regular-scheduled week basis. This would appear to be an opportunity to obtain the services of a qualified physician(s) to the advantage of both the physician(s) and patients admitted to state care. An average work week of at least 35 hours may be an excellent solution for a busy private physician who would have reason and a desire to curtail his activity.

I would welcome the opportunity to be helpful to any qualified confrère, and at the same time enhance the quality of medical care being given to our state patients.

Your help in referring physicians who might be interested to us will be greatly appreciated.

Very truly yours,

JOHN J. PELOSI, M.D.

Assistant Director, Curative Services,
R.I. Department of Social Welfare

* * *

July 19, 1961

To the Editor:

You have done your readers, and the medical profession in general, a timely service in pointing out the complete disregard of the Senate Subcommittee on Antitrust and Monopoly to the blatant promotion of "useless and even harmful nostrums" in this country. Physicians who are aware of the grave dangers to the profession contained in Forand-type legislation, such as the King-Anderson bill, should also be alerted to Senator Kefauver's new threats to their freedom in prescription-writing and in the use of valuable new drugs. The Kefauver-Celler bills (S. 1552, H.R. 6245) likewise provide for such drastic regulation

of the pharmaceutical industry that research and development of new prescription drugs would be seriously curtailed.

Sincerely,
ROBERT J. BENFORD, M.D.
*Director of Medical Relations,
Pharmaceutical Manufacturers
Association*

* * *

HEADQUARTERS BOSTON ARMY BASE
BOSTON 10, MASSACHUSETTS
AMEDS Personnel Procurement Office

17 August 1961

To the Editor:

As a result of the current world situation and the buildup of our nation's defense, many problems have arisen, particularly in reference to physicians and their vulnerability and availability for military service.

With the thought in mind that I might be of service to members of your organization who have either not as yet fulfilled their military service obligation and/or might possibly be interested in the many professional opportunities offered by the Army Medical Service, I would appreciate information concerning my whereabouts being disseminated to the many members of your society.

With kindest regards,

Sincerely yours,
DONALD M. NAY
Capt MSC
AMEDS Personnel Counselor

* * *

DID YOU KNOW?

- That 46.4 million persons were injured in accidents in the U.S. last year, topping the 1959 figure of 43 million persons injured.
- That seven out of every ten workers covered under group health insurance policies issued during 1960 have the right to retain their health insurance protection when they retire.
- That more than 100 guaranteed-for-life health insurance policies and plans now are available to individuals in or near retirement.
- That last year in the U.S. an average of \$2.7 million a day was spent on the construction of hospitals, nursing homes and other health care facilities.
- That more than 2.5 million persons now are engaged in work related to maintaining the health of the American people.

KENNEY CLINIC DAY

Wednesday, October 25, 1961

Pawtucket Memorial Hospital

AS CLEAN AS MODERN DAIRY SCIENCE CAN MAKE IT...



The A. B. Munroe Dairy Laboratory, where milk is subjected to constant testing, using the most modern methods of milk analysis.



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State Aging Administrator's

"Glib Generalizations" Refuted

Blue Cross and Physicians Service attacked as "grossly misleading" statements by Mary C. Mulvey, administrator of the State Division on Aging.

The Aging Division head stated that she questioned the adequacy of Blue Cross and Physicians Service coverage provided for the aged by the nonprofit health care plans.

"Doctor Mulvey is certainly entitled to her personal political opinion about government aid for health care of the aged. But to imply that Blue Cross and Physicians Service have not provided adequate protection for such persons is simply not true," Arthur F. Hanley, assistant director of the plans, said.

"The fact is that every person in the state, regardless of age, has been offered the \$20 Blue Cross as well as Physicians Service coverage. If these citizens did not subscribe to this particular plan, it is either because they do not choose this protection or they cannot afford it."

"Naturally, Blue Cross and Physicians Service have no power to collect taxes to provide protection automatically, or to provide new money, as it would be done under a government program. But the fact remains that this protection is available on a voluntary basis, and enrollment of the aged in Rhode Island is unmatched anywhere else in the nation."

Mr. Hanley asserted that, as a public service, the plans have voluntarily accepted persons regardless of health conditions or age, and at the same rates as younger people, since 1944. "The job of enrolling our senior citizens on a voluntary basis has been done better than anywhere else in the country — no amount of sniping comments or quibbling over figures can refute this."

"If Doctor Mulvey's concern is whether or not the aged can afford this protection, that is one question. But to assert that Blue Cross does not provide the protection — and use Blue Cross as a scapegoat when it has done the best job of any organization

to date for our senior citizens — is certainly a grossly misleading approach to the problem of care of the aged," Mr. Hanley stressed.

"All Blue Cross memberships provide complete coverage of the ancillary services — such as costly drugs and laboratory tests," Mr. Hanley added. "Our purpose in providing coverage with lower daily benefits was that some persons felt they simply could not afford the rates for greater protection. With many people it was either this protection or none — and in order to provide the greatest service to the entire population, we made a variety of memberships available."

The Blue Cross statistical analysis of coverage of the aged, released last year, showed that 93.4 per cent of the eligible self-supporting population were enrolled in Blue Cross. "These statistics were the result of months of study and checking thousands of contracts. For example, over 32,000 group contracts alone were closely analyzed to arrive at the results."

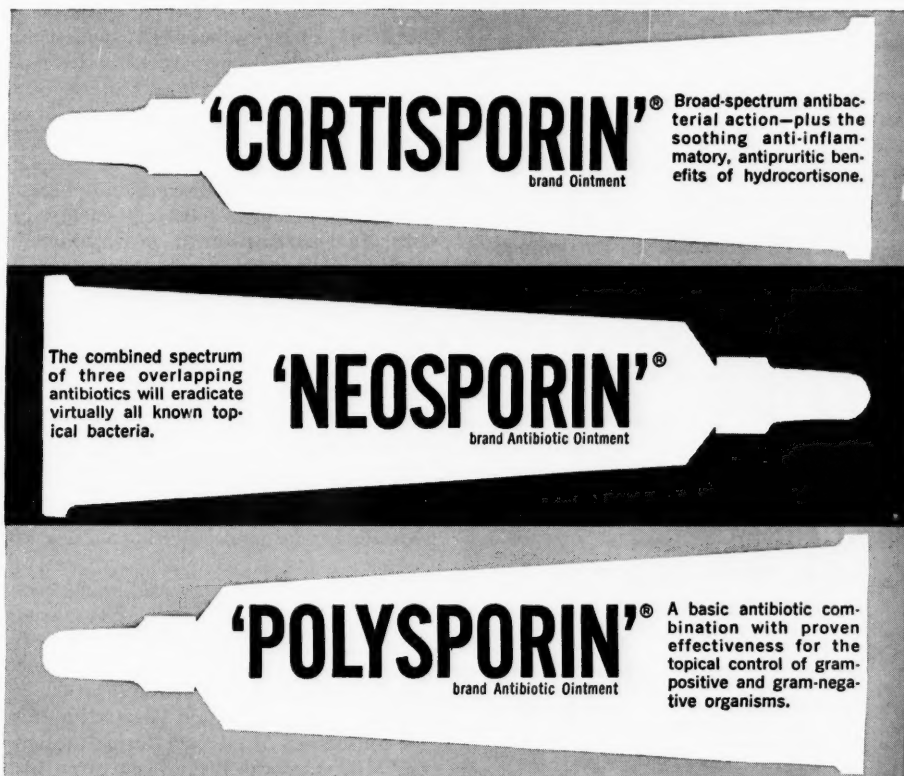
"It is ironic that Doctor Mulvey should imply that Blue Cross may have underestimated the total number of the aged in Rhode Island, since these figures were obtained from her own state agency," Mr. Hanley said. "And although the report was made and released before the recent census, which would account for a slightly lower estimate of the population, these figures would not change the essence of the report to any marked degree."

The plans' official stated that, in making the study, the Blue Cross staff worked closely with the State Division on Aging under Doctor Mulvey's predecessor, Mrs. Roberta Brown. "Many of the statistics were provided by this state agency, as well as the State Department of Social Welfare, and there was no question about these figures when the report was released over a year ago."

"Glib generalizations do not challenge facts. We challenge Doctor Mulvey to show where any plan on a voluntary basis has made greater coverage available or enrolled a greater percentage than Blue Cross and Physicians Service have done here in Rhode Island," Mr. Hanley concluded.

continued on page 540

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THROUGH THE MICROSCOPE

continued from page 538

Hospital Benefits Climbing Rapidly

Benefits paid to persons covered by hospital expense insurance are increasing much more rapidly than the number of persons with such insurance, the Health Insurance Institute reported recently.

From 1959 to 1960, the rate of increase in hospitalization benefits almost quadrupled the growth of persons with hospital insurance, said the Institute, while from 1952 through 1960 the growth rate of benefits more than quadrupled that of persons covered.

The number of persons covered by hospital expense insurance provided by insurance companies, Blue Cross-Blue Shield, and other health care plans rose from 127,896,000 at the end of 1959 to 131,962,000 at the end of 1960, an increase of 3.2 per cent.

At the same time, benefits to pay for the costs of hospital care climbed from \$2,889,000,000 in 1959 to \$3,250,000,000 in 1960, a boost of 12.5 per cent, and almost quadrupled the rate of increase in coverage.

Full Benefits for Aged Employees

Older workers, regardless of age, may maintain their health insurance coverage in more than 95 per cent of collectively bargained group plans ana-

RHODE ISLAND MEDICAL JOURNAL

lyzed by the U.S. Social Security Administration. Restrictive age provisions appear in only a handful of the plans covering millions of active workers. In most of these cases, benefits are reduced rather than discontinued.

The Social Security Administration commented: "... An outstanding characteristic of collectively bargained health and insurance plans (hospitalization, surgical, medical, accident and sickness, life insurance and accidental death and dismemberment) in 1958, 1959, and 1960 was the general absence of provisions barring participation because of the age of the insured worker, whether he was newly hired or long employed."

Hospitalization benefits for *newly hired* older workers were modified in only 14 of 293 plans. Benefit restrictions because of *aging on the job* totaled 10—one plan discontinuing benefits after age 70 and the others reducing benefits.

In all other plans benefits provided for the older workers were exactly the same as those available to younger employees.

The plans studied ranged in coverage from 1,000 to one-half million workers each, and provided protection to about 40 per cent of the total number of workers under all collectively bargained plans in the 1958-60 period.

Results of M.D. Physicals at A.M.A. Meeting

The American Medical Association announced that physical examinations were given 1,900 physicians during the annual meeting at New York City in June.

Electrocardiograms revealed heart abnormalities in 17.7 per cent of 1,945 physicians, according to Doctor Charles E. McArthur, Olympia, Washington, chairman of the A.M.A. Committee on Annual Physical Examinations for Physicians.

Doctor McArthur said he was impressed with the consistency of the data during the seven years the M.D. physicals have been given at A.M.A. annual meetings. Despite the fact that each year there is a different group of examinees and different consultants, the normal electrocardiograms have been close to 80 per cent each year, he said.

Chest X-rays of 1,900 physicians showed:

- Suspected tuberculosis in 5.3 per cent.
- Other lung abnormalities in 6.1 per cent.
- Cardiovascular abnormalities in 6.7 per cent.
- Other conditions in 6.7 per cent.

Federal Employees Health Program Enrolls 6 Million

The Civil Service Commission estimates that of the 132,000,000 persons in the United States having some form of health benefits protection, almost 6,000,000, or about 4.5 per cent, are participating in the two health benefits programs which it administers. The estimate is based on enrollments in the

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Federal Employees Health Benefits Program as of March 31, 1961, and in the Retired Federal Employees Health Benefits Program as of July 1, 1961.

Each of these is a voluntary, contributory program with the government, as the employer, paying a part of the cost. The Federal Employees Health Benefits Program is available to active employees, to enrolled employees who became annuitants after July 1, 1960, and to the dependents of these two groups. The Retired Federal Employees Health Benefits Program is available to certain persons who were annuitants before July 1, 1960, and to their dependents.

Figures for the program for active federal employees show a total of about 5,397,500 persons covered under that program as of March 31, 1961. This is a gain of 224,000 over the number of persons covered when the program went into effect July 1960. The 224,000 includes 74,000 new enrollees and an estimated 150,000 dependents. The new total coverage breaks down into 1,779,000 employees, 26,000 employee and survivor annuitants who continued their health benefits coverage, and 3,592,500 dependents of employees and annuitants.

The gain in the number of employees enrolled came from (1) new employees; (2) employees who were covered as dependents on June 30, 1960, and who later enrolled under their own right because of a change in family status; and (3) employees who, though eligible, had not enrolled during the original period of enrollment but have since enrolled because of a change in marital status or a move to or from an overseas post of duty.

Eighty-seven per cent of the 74,000 increase in enrollees was reported by the two government-wide plans. Seven of the other larger plans, principally those sponsored by federal employee organizations, accounted for another 10 per cent of the increase in coverage. The other 27 plans accounted for 3 per cent of the total gain in enrollees.

* * *

Former A.M.A. Leader Heads Blood Council

Doctor Gunnar Gundersen of La Crosse, Wisconsin, was elected as president of the Joint Blood Council at its annual meeting in New York June 26. The Council was formed as a nonprofit corporation six years ago to co-ordinate the blood programing and defense collection efforts of the American Medical Association, American Association of Blood Banks, American Hospital Association, American Society of Clinical Pathologists and American Red Cross into a national plan. After presiding at the meeting Doctor Gundersen said, "blood banking organizations have made great progress in providing safe blood to patients during the past several years. The Council is keeping abreast of research and the practical aspects of getting, processing and distributing blood. With the

continued support of the Member Institutions, we expect to help solve some difficult problems." Doctor Gundersen is a past president of the American Medical Association.

* * *

Hospital Building at \$2.7 Million a Day

Last year in the United States an average of \$2.7 million a day was spent on the construction of hospitals, nursing homes and other health facilities, the Health Insurance Institute reported recently.

A total of \$978 million was expended on such construction during 1960, the Institute said in its report based on statistics supplied by the U.S. Department of Commerce.

The past five years were a peak period for hospital construction, the Institute said. From 1956 through 1960, expenditures on new construction of hospitals, nursing homes and other health facilities amounted to \$4,467,000,000 compared to \$3,866,000,000 for the preceding five-year period.

Other government analyses have shown that private sources now provide the major portion of the funds for this construction.

In 1940, total hospital construction expenditures were \$87 million, of which \$33 million, or 38 per cent of the total, came from private sources, the Institute said. However, in 1960, private construction amounted to \$579 million, or 59 per cent of the year's total of \$978 million.

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BOOK REVIEWS

A MANUAL OF CUTANEOUS MEDICINE

by Donald M. Pillsbury, M.D., Walter B. Shelley, M.D. and Albert M. Kligman, M.D. W. B. Saunders Co., Philadelphia and London, 1961, \$9.50

This is an excellent orientation book by three eminent dermatologists. Several items are rather new to the reviewer and, if substantiated by further experience, could be of great significance. For example, the fact that it is possible to predict which hemangioma will involute spontaneously, since there are definite clinical characteristics. It is also interesting to read that one hemangioma is physiologic; also to read about the immigrant melanocyte; that anxiety states are causing darkening of the eyelids; that the patient's views as to the cause of his disorder are to be solicited; and that English terminology should be preferred to the Latin one.

It is courageous to admit that periungual warts are often incurable. Wisely, there is not much discussion of roentgentherapy. This may prevent its use by the inexperienced physician for the treatment of psoriasis, pruritus ani, neurodermatitis, and other non-malignant dermatoses.

The illustrations are highly demonstrative, e.g., the hemangiomata before and after spontaneous involution, the epidermal barriers bypassed by a topically applied medicament, and many others. The unhappy atopic child may leave the reader perplexed as to whether he is atopic because he is unhappy or vice versa.

The text is free of dermatologic rarities, of excessive bibliography and eponyms. It should be a valuable addition to any physician's desk.

F. RONCHESE, M.D.

MEMOIRS OF A MEDICO by E. Martinez Alonso. Doubleday and Co., Garden City, New York, 1961. \$4.50

An exciting prologue is a good way to insure further reading. The author, a skilled Spanish surgeon, son of a foreign-service diplomat, outlines his adventurous life from boyhood in Glasgow, to prize fighting in Buenos Aires, and to medical school in Edinburgh.

The Spanish Civil War drags him as a surgeon, involuntarily, to the communist side. The pages are horror-filled. Then comes World War II, com-

mando training, peace, and more surgery in Madrid.

Among the celebrities Doctor Alonso treated was Hilton, who, when the Castellana Hilton was opened in Madrid, wanted him as hotel doctor. The contact with a cosmopolitan tourist population gives occasion to peculiar incidents, like the lining up of tourists in the hotel medical office insisting on a shot of penicillin before going out to a night of revelry.

Interesting are the passages on bull fighters, the episodes that deal with human love for animals, the surgical cases peculiar to countries in which game killed by lead pellets is a steady diet. A girl was wasting away as a case of tuberculous peritonitis when her appendix was found full of such pellets.

Language difficulties make humorous stories. The doctor did not laugh, however, when, rushing to a prospective patient in the early morning, he was told that what he wanted was an "adapter" for his razor.

A very interesting, amusing, well-written book.

F. RONCHESE, M.D.

A SYNOPSIS OF CONTEMPORARY PSYCHIATRY by George A. Ulett, M.D., and D. Wells Goodrich, M.D. The C. V. Mosby Company, St. Louis, 1960. \$6.50

A SYNOPSIS OF CONTEMPORARY PSYCHIATRY packs a tremendous amount of information into its 297 pages. The book is divided into three parts.

Part I concerns itself primarily with the various types of examination, neurological, psychiatric, and psychological. It includes a chapter on the psychodynamic concepts of personality which is particularly worth reading for those who have had no training in this field.

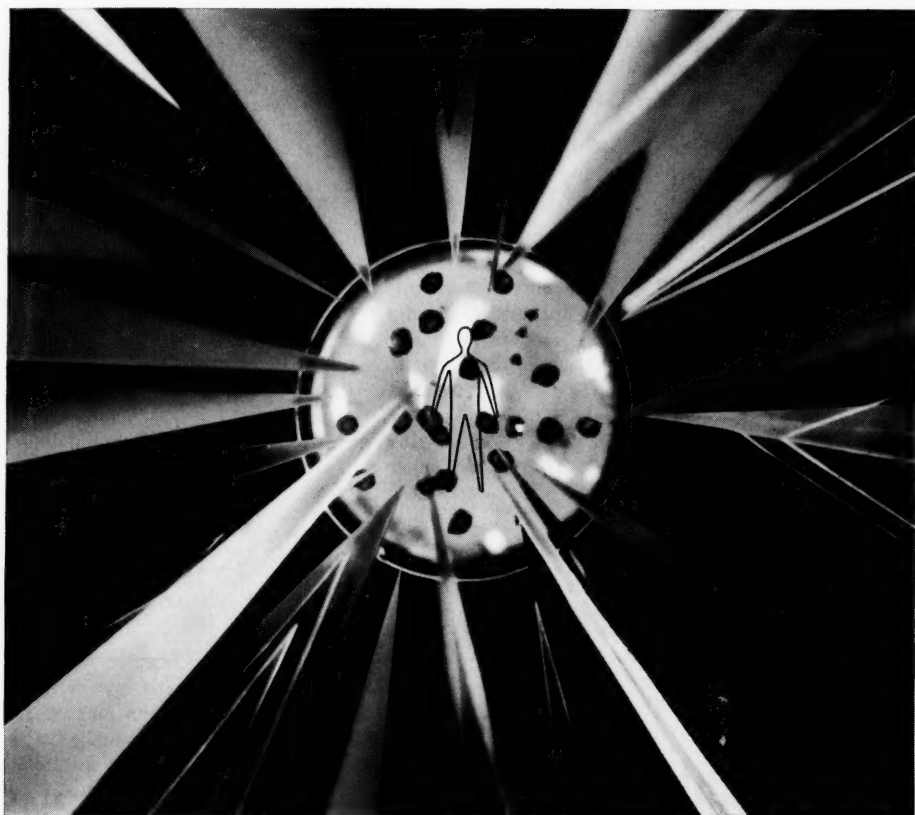
Part II lists and gives some understanding of the organic and functional types of neuropsychiatric disorders.

Part III is concerned with therapeutic measures with an excellent final chapter on the classification of some of the more common tranquilizers, their indications, and side reactions.

At the close of each chapter the authors have lists of suggested reading for those individuals who wish to delve more deeply into this branch of medicine.

It is this reviewer's opinion that this is an excellent book not only for interns and beginning resi-

continued on page 544



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BOOK REVIEWS

continued from page 542

dents in psychiatry but also, because psychiatry reaches into every field of medicine, men in other specialties as well.

DAVID J. FISH, M.D.

HOUSE OF HEALING. The Story of the Hospital by Mary Risley. Doubleday & Co., Inc., Garden City, N.Y., 1961. \$4.50

The jacket blurb of the *HOUSE OF HEALING* states that this is the first complete history of the hospital ever published for the layman. It is indeed strange that it has taken so long for a book to appear, written in nontechnical language, concerning an institution having its sources in antiquity. Because it has been so long in coming, it is a very welcome and certainly worthwhile addition to the medical literature for the lay person.

Medical progress, of marked concern to those outside the profession, can never be measured except as part of the development of houses of healing. Hence the history of hospitals is *ipso facto* of interest to everyone.

The author traces in a highly readable and interesting fashion the history of the hospital from its ancient origins in Sumer, Babylon, and Assyria; and Egypt, Greece, Rome, and Arabia. Thence she covers the period of the Middle Ages — the expansion of nursing and hospital care by the guilds, monastic hospitals and those established during the Crusades. Her story brings us up to the present time. A chapter is devoted to what she considers the three landmarks in hospital history, all founded a thousand or more years ago and all still in operation: the Santo Spirito in Rome, St. Bartholomew's in London, and the Hôtel Dieu in Paris. Nor does she fail to emphasize the importance of the early nursing holy orders and the remarkable contributions of individual nurses such as Florence Nightingale and Elizabeth Fry.

Throughout the book runs a recurring thread of the author's belief that the world's hospitals have developed from man's love of man, his humanitarian impulses, his sense of brotherhood. That is why for so many centuries, she avers, hospitals derived directly from the church. Later came the periods of princely patronage and royal supervision, as well as the beginnings (between the sixteenth and late eighteenth centuries) of what were to form the modern pattern for the support of hospitals: city control and private charity. Modern medicine and hospital construction as we know them today, however, developed only after man's *right* to shelter and healing was recognized.

The author has given the layman, not only a well-documented history of the hospital, but

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through it, a philosophical footnote on the evolution of man's impulses toward his fellow man.

GERTRUDE N. GOLDOWSKY

MEDICAL ALMANAC 1961-62. Compiled by Peter S. Nagan, A.B., M.A., M.S. W. B. Saunders Co., Phil., 1961. \$5.00

How many? Most prevalent? What per cent? Who's president of...? Number of physicians specializing in...? These are the questions that take the time and try the temper of the librarian for a thorough search of every available source may fail to turn up an answer.

MEDICAL ALMANAC is an amazingly successful attempt to solve this problem. Some of the chapter headings show the wide coverage of general information: *Organizations and Officials, Education and Research, Vital Statistics, Medical Manpower, Costs of Illness, Regulations and Schedules*, and even *Historical Facts*.

Librarians and their readers should thank Mr. Nagan and wish him long life and happy hunting in the jungle of statistics!

HELEN M. DEJONG

MEDICAL RESEARCH AND THE DEATH PENALTY. A Dialogue by Jack Kevorkian, M.D. Vantage Press, N.Y., 1960. \$2.50

A criminal condemned to death, says this book, should have a choice of death by anesthesia and medical experimentation. The ordinary death penalty as prescribed by the state, would be the alternative. This idea originated from the author's study of ancient Greece while writing a history of the autopsy. Every schoolboy knows that Socrates drank hemlock; this was by choice, apparently. Human vivisection of the condemned in Greece is alluded to in the book which is dedicated "To the Hellenists of ancient Alexandria who evidently dared to do that which we scarcely dare ponder."

A series of dialogues between the Protagonist (Dr. Kevorkian) and, successively, the Condemned, the Law, the Physician, and the Public presents the arguments for the plan. Seventy-two pages say this, (1) A man must die, (2) We should help him by killing him painlessly, (3) By lethal experiments medical knowledge will increase, (4) Society will be healthier and happier.

A patient's permission freely given is historically, traditionally, morally and legally the basis for medical practice. The duress of the death penalty itself makes a freely given permission impossible and herein negates all subsequent arguments and developments in the book. The Physician would be a willing, silent partner of a political state in its executions. Medical tradition has generally transcended the political concepts of temporal states. It will be

wise to continue.

The duress of impending death due to disease is a different matter. Permission for experimentation is generally acceptable to the profession. If there is real virtue in terminal anesthetic deaths they might be considered for this category. But this is not the subject of the book reviewed and no more need be said. The difference in such permission for the profession should be clear.

This is an unusual book on an unusual subject. It will provoke thought about several unusual ethical problems in medicine. Such a book is worth writing and worth reading.

ROBERT V. LEWIS, M.D.

REGULATION OF THE INORGANIC ION CONTENT OF CELLS. Ciba Foundation Study Group No. 5. In Honour of Prof. E. J. Conway. Editors: G. E. W. Wolstenholme and Cecilia M. O'Connor. Little, Brown & Co., Bost., 1960. \$2.50

The collected papers and discussion of the 5th Study Group supported by Ciba Limited are published in this booklet of 93 pages. The subject, REGULATION OF THE INORGANIC ION CONTENT OF CELLS, was discussed by the leaders of the field in a one-day conference.

The limited subject and highly technical presen-

tation emphasize the basic importance of inorganic ions of cells in medicine and physiology. The clinical use of all I-V fluids, the increasing importance of the trace ions diagnostically and therapeutically and the recognition of the importance of intra- rather than extra-cellular concentration emphasize the need for advances in and promotion of the study of the regulation of the cellular concentration.

The material is technical and I could find no direct clinical applications. However, the ultimate applications are unlimited and this digest of current thought on the subject is available for those in whose interest and concern the booklet has been published.

ROBERT V. LEWIS, M.D.

BLOOD DISEASES OF INFANCY AND CHILDHOOD by Carl H. Smith, M.D. The C. V. Mosby Co., St. Louis, 1960. \$17.00

This new book by Doctor Carl H. Smith is a well-written review of hematology with special emphasis on its pediatric application.

Although the field of hematology is not sharply divisible in terms of age groups, we welcome this book because we hope that it will be an incentive for physicians dealing with pediatric problems to refresh their knowledge on the most recent advances of hematology. As a matter of fact, we would like

concluded on next page



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to see more books of this type tailored to suit the need of other specialties as well.

Presently, hematology has reached a high degree of perfection and deserves the right to be considered as a specialty. However, since in many diseases, there are changes in the peripheral blood and blood forming organs, we can certainly say that in broad terms hematology involves practically every field of medicine. Every practicing physician, at one time or another, is faced with some hematology problem and should be able to evaluate each case, make the diagnosis and give the patient the correct treatment. No physician, nowadays, would consider treating a patient with diabetes in a hospital or clinic which could not offer facilities for chemical determination of blood and urine sugar. Yet, severe anemias, bleeding conditions, and other hematological disorders are often treated with shotgun medication, many times without even trying to establish a tentative diagnosis. The laboratory hematology is as indispensable as the E.K.G. in cardiology or X-ray in gastro-enterology; however, if most internists know exactly what they want when they request an E.K.G., the same is not always true when the same physician is faced with a hemorrhagic condition or severe anemia.

Doctor Smith's text is very accurate and up to date and the chapters on maternal fetal interrelation in blood dyscrasia, exchange transfusion, erythroblastosis fetalis and hereditary hemoglobinopathies are extremely clear, concise, and thoroughly explained. The description of an exchanged transfusion is the best I have ever read. The chapters on childhood leukemia and hemorrhagic disorders are also excellent.

The illustrations in black and white are only fair, but we do not consider this a major defect; we subscribe to Ian Aird's opinion "there is no doubt that the commonest type of memory is that which relies on visual impressions, yet too close a dependence on visual memory enchains the intellect; the highest faculty of the intellect and the finest communication is language."

SALVATORE R. ALLEGRA, M.D.

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